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The Impact of Video Self-Modeling on Culturally and Linguistically Diverse Secondary Students with an Emotional Disturbance

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The Impact of Video Self-Modeling on Culturally and Linguistically Diverse Secondary Students with an Emotional Disturbance

by

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DEDICATION

To my husband, Leroy Baker Jr., and my three lovely children

Deandria, Alfred, and Destiny.

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The Impact of Video Self-Modeling on Culturally and Linguistically Diverse Secondary Students with an Emotional Disturbance

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Students with ED often exhibit disruptive behavior in the classroom that adversely affects the learning environment (Cook, Gresham, Kern, Barreras, Thornton, & Crews, 2008). Culturally and linguistically diverse (CLD) students tend to be over-represented in this category of disability. Despite the fact that the majority of students identified with ED are male, females do represent 23.6% of this population (U.S. Department of Education, 1998; Yell, Meadows, Drasgow, & Shriner, 2009). Additionally, a large number of individuals with ED are high school age (Wagner, Friend, Bursuck, Kutash, Duchnowski, Sumi, & Epstein, 2006). Interventions used with this population have often been punitive in nature, designed to control behavior rather than to help an individual improve (Newcomer, 2003). Efforts of the No Child Left Behind (NCLB) Act of 2001 and the Individual with Disabilities Act (IDEA) require the use of scientifically-based practices when addressing academic and behavioral goals. A

variety of interventions for students with ED have been investigated. While many of these interventions produce degrees of positive change, they often demand a great deal of time and effort from the teacher (Wagner et al., 2006). Video self-modeling (VSM) is an intervention involving an individual watching him/herself on video demonstrating desired and appropriate behavior. It has been proven successful with other challenging populations (e.g., individuals with autism) (Buggey, 2005). Few studies of VSM have been conducted with secondary students with ED. The present study was designed to analyze the effects that VSM had on four secondary CLD students with ED across a variety of behaviors, including laughing obnoxiously out loud, using profanity, and requesting help. Multiple baseline designs across students were used to evaluate performance. The results indicated all four participants exhibited immediate and significant gains upon implementation of the VSM intervention, and that those gains were maintained after cessation of intervention. The findings suggest that VSM may represent a positive behavior change intervention worthy of consideration for CLD secondary students with ED.

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CHAPTER 1

INTRODUCTION

Emotional and behavioral disorder (EBD) is a term created by the Individuals with Disabilities Education Act (2004) and refers to the spectrum of students who experience social, emotional, and behavioral problems who are not otherwise served under special education (Cook et al., 2008). The number of students described as having EBD is increasing (Sawka, McCurdy, & Mannella, 2002). Indeed, the number of students between the ages of three and 21 served in federally-supported programs in the emotional disturbance category from 1976 to 2004 nearly doubled, from 283,000 to 489,000 (National Center for Education Statistics [NCES], 2007). Despite this recorded increase, this group of students has been empirically demonstrated to be both under-identified and underserved (Walker, Nishioka, Zeller, Severson, & Feil, 2000).

Students with EBD often engage in behavior that is disruptive in the classroom, impedes educational progress, and inhibits their ability to form and maintain peer relationships (Cook et al., 2008; Hitchcock, Dowrick, & Prater, 2003; Kern-Dunlap, 1992; Trout, Nordness, Pierce, & Epstein, 2003; Musser, Bray, Kehle, & Jenson, 2001; Wagner et al., 2006). The results of Smith's 1990 survey of general education teachers indicated that students with EBD were the primary reason for leaving the profession. As such, the creation of effective, feasible, and acceptable classroom interventions is a major aim for research involving this population (Stage et al., 2008).

Moreover, there is an over-representation of CLD students in the area of EBD and in the juvenile justice system (Cartledge, Kea, & Simmons-Reed, 2002). Additionally,

overrepresentation in ED is a concern in the state of Texas with Native Americans and White students, but specifically with African American youth (Texas Education Agency [TEA], 2005). According to data retrieved from the TEA (2008), the academic excellence indicator system 2007-08 profile reports that African Americans represent 14.3% of the total student population. However, the percentage of African American students aged 6 through 21 with ED served under the Individual with Disability Education Act (IDEA) in the state of Texas is 22.46% (U.S. Department of Education, 2007). Conversely, Asian Americans and Hispanics tend to be underrepresented in this category (TEA, 2005). As depicted in the data, CLD students are both under- and overrepresented in the category of ED.

The ED population tends to be underserved (Smith, Polloway, Patton, & Dowdy, 2004) and is less likely to receive academic support and behavioral interventions they need to succeed (Wagner et al., 2006). Also, academic and behavioral supports are less common at the high school level than at the elementary and middle school levels, and teachers are likely to feel unqualified to work with students with ED (Wagner et al., 2006). These students tend to experience less positive outcomes when transitioning to adulthood (Zigmond, 2006). For example, they have high dropout rates, lower employment rates, poor community adjustment, mental health issues, and higher arrest rates than their peers.

Efforts to improve students' behavior and performance are perpetuated by provisions of the No Child Left Behind (NCLB) Act of 2001 and the Individuals with Disabilities Education Act (IDEA), which was reauthorized in 2004. These provisions

require the use of scientifically-based practices when addressing academic and behavioral goals. A variety of interventions for students with EBD have been researched. For example, one such intervention is positive behavior support (PBS) that is a research-based method for supporting individuals with challenging behaviors. It is a team-based, proactive, ecological method that uses problem solving and person-centered approaches to dealing with behavior problems (Sugai, Simonsen, & Horner, 2008). While many of these interventions produce degrees of positive change, they also often demand a great deal of teacher time and effort to implement (Booth & Fairbank, 1984; Wagner et al., 2006).

Video modeling consists of having an individual watch a video of himself or herself (or someone similar) demonstrating desired behavior. Video modeling interventions may have an advantage over other strategies because they rely predominately on simply allowing the student to watch the video. Use of video modeling has numerous benefits, including demonstration of desired skills in relevant contexts, use of multiple stimulus and response exemplars, and standardization of the presentation of training, allowing for consistency (Morgan & Salzberg, 1992). Video modeling was derived from social learning theory, in which individuals are believed to learn through observation (Bandura, 1969; 1986; 1997). Bandura (1997) suggested there are four basic conditions necessary for observational learning to occur: attention, retention, motor reproduction, and motivation. Bandura described video modeling as containing the fundamental elements of self-efficacy. He suggested that the advantage of seeing oneself perform successfully is that it provides clear information on how best to perform skills,

and it strengthens beliefs in one's capability. Additionally, if the demonstrated behavior is valued, it provides a possible source of motivation (Dowrick, 1999).

Video modeling has been demonstrated to be an effective intervention for other challenging populations such as students with autism (McCoy & Hermansen, 2007). Additionally, video modeling has been identified as a feasible intervention within schools (Hitchcock et al., 2003). Indeed, video modeling has been used throughout the literature to address a wide range of issues such as behavioral deficits, peer interactions, increasing on-task behavior, and decreasing inappropriate behavior (e.g., Kern-Dunlap et al., 1992; O'Reilly et al., 2005; Walker & Clement, 1992).

The purpose of this dissertation is to extend previous research by investigating the effectiveness of video self-modeling with CLD secondary students with ED in increasing appropriate behavior and decreasing inappropriate social behavior in inclusive settings. This dissertation will seek to answer the following questions: Do CLD secondary students with ED respond positively to video self-modeling (VSM) intervention? Is VSM effective in decreasing inappropriate social behaviors with CLD secondary students with ED in inclusive settings? Is VSM effective in increasing appropriate behaviors with CLD secondary students with ED in inclusive settings? It is hypothesized that CLD secondary students will respond positively to video self-modeling and this intervention will decrease inappropriate social behavior while increasing and sustaining appropriate social behavior.

CHAPTER 2

REVIEW OF VIDEO MODELING WITH STUDENTS WITH EMOTIONAL AND BEHAVIORAL DISORDERS

This chapter will provide a brief summary of the current issues that students with ED face in the educational setting and provide a short synopsis of video modeling and from where it derived. Previous reviews of video modeling will be discussed, as will the methods used to conduct and analyze the review of the literature. A thorough discussion of the findings and how they led to the significance of the current study will be provided.

Students with ED tend to exhibit behaviors that cause a disruption in the classroom (Trout, Nordness, Pierce, & Epstein, 2003). This population of students tends to be underserved when it comes to receiving appropriate academic and behavioral support and interventions (Wagner et al., 2006). Video modeling is an intervention that has been proven effective with other challenging populations (e.g., autism). This particular intervention is based on Bandura's Social Learning Theory, suggesting that individuals learn vicariously by modeling others. Therefore, this literature review will search for studies using video modeling as an intervention with students with ED.

Following the introduction of the concept of modeling and self-confidence in learning by Bandura (1967), researchers have begun to evaluate the practical application of self-modeling and peer modeling through various methods of video modeling (e.g., video feedforward, video self-modeling) in applied research (Lonnecker, Brady, McPherson, & Hawkins, 1994; O'Reilly, O'Halloran, Sigafoos, Lancioni, Green & Edrishinha, 2005). Video modeling has been used to teach a variety of skills to

individuals with varying types of disabilities (e.g., autism, severe to profound intellectual disabilities, behavior disorders) (Sigafoos, O'Reilly, & de la Cruz, 2007). Its effectiveness in addressing inappropriate target behaviors such as being off-task and aggression (e.g., hitting) in more restrictive settings (e.g., residential facilities, clinics, special education classrooms) has been evaluated. However, the application and extension of this body of research in inclusive settings remains limited. A review of recent applied studies investigating video modeling, specifically with students with emotional and behavioral disorders (EBD) is needed to synthesize the work that has been done in this area and to underscore areas in need of further investigation.

Previous reviews of the literature on video modeling have been published (Buggey, 1995; Dowrick, 1999; Hitchcock et al., 2003; Meharg & Woltersdorf, 1990). Buggey's (1995) review focuses on the research of the efficacy of videotaped self-modeling across an array of behaviors and ages. In Buggey's review, sixteen studies were identified that included elementary or preschool-aged children. A total of 155 participants were included, and of these 116 were in two comparative studies. The participants ranged in age from 3 to sixteen, with the exception of two studies involving adults. Eight studies used single-subject designs, three used case study combined with single subject designs, two used case studies independently, and three used pretest-posttest combined with an A-B-A design. The findings suggest that video modeling proves more effective with school-age children and adults than with preschool populations. At the time of Buggey's review, there had been a limited number of studies on the efficacy of video self-modeling with this population. Further research was recommended with preschool populations to

determine efficacy. However, video self-modeling was found to have several advantages as an intervention, such as requiring less instructional time, being less intrusive, and being naturally more sensitive to culture.

Dowrick's (1999) review examined empirical literature of self modeling as a training or therapeutic intervention in the context of its history and conceptualizations. In Dowrick's review, the studies were summarized across seven categories in which self-modeling may be applied in conjunction with positive self-review or feed forward. The categories include: (a) increasing adaptive behavior currently intermixed with undesirable behaviors; (b) transfer of setting-specific behavior to other environments, (c) use of hidden support for disorders that may be anxiety-based; (d) improved image for mood-based disorders; (e) recombining components skills; (f) transferring role-play to the real world; and (g) re-engagement of discussed or low-frequency skills. The results suggested moderate to strong outcomes.

Hitchock's et al. (2003) review focused on studies in which video self-modeling was applied in school-based settings. Eighteen studies met strict criteria for inclusion in the review. The participants (n=129) ranged in age from 3 to seventeen. Fifty-eight of the participants were identified as having a disability and 71 were identified as being at risk because of low academic achievement. Six studies included participants with language and cognitive disabilities, 4 included participants with behavioral disabilities, and 2 included participants with attention-deficit/hyperactivity disorder. Four studies included participants with comorbid disabilities (i.e., learning and behavioral disabilities). The

results of the review confirmed the functional control of targeted academic skills and behaviors, and support the efficacy of video self-modeling to improve student outcomes.

Meharg and Woltersdorf's (1990) review included 27 studies employing the therapeutic use of videotape self-modeling in clinical, residential, and school-based settings. Their purpose was to identify how videotape self-modeling has been applied in clinical and experimental settings as well as provide a critical analysis of its trends in the literature. Participants ranged in age from 4 years to adult. Eighteen studies included children and 9 targeted adults. Twelve targeted clinical problems of a psychiatric nature, 9 included participants with genetic and developmental disabilities, 7 used normal subjects, and two targeted asthmatic participants. Only one study included an individual with a behavioral disorder. The results of the review indicate a strong tendency toward the use of video self-modeling procedures with specific clinical problems using within-subject methods.

No review has been published specifically examining the effectiveness of video modeling with students with EBD. Further, no review exists that examine the representation of culturally and linguistically diverse students with EBD and their outcomes for the effects of video modeling.

To facilitate evidence-based practice in this important area of educational priority, the author herein provides a systematic review of studies that use video modeling for individuals with EBD. The objective of this review is to describe the characteristics of these studies (e.g., participants, target behaviors, intervention procedures) and evaluate intervention outcomes. A review of this type is primarily intended to guide and inform

evidence-based practice in the education of individuals with EBD. A secondary aim is to identify gaps in the existing database so as to stimulate future research efforts aimed at better understanding the effects (and ultimately improving the use) of video modeling with the EBD population.

Methods

Search Procedures

Systematic searches were conducted of three electronic databases: Education Resources Information Center (ERIC), Medline, and Psych*INFO*. During database searches, publication year was not restricted, but the search was limited to English-language journal articles. On all three databases, the terms *video modeling*, *video self-modeling*, *videotape feedback*, *self-evaluation*, *behavioral disorders*, *emotionally disturbed*, *emotionally impaired*, *serious emotional disturbance*, *emotional and behavioral disorders,* and *emotional disturbance* were inserted into the *Keywords* field. Abstracts of the records returned from these electronic searches were reviewed to identify studies for inclusion in the review (see *Inclusion and Exclusion Criteria)*. The reference lists for the included studies were also reviewed to identify additional articles for possible inclusion. Finally, in order to ensure all potentially relevant studies were located, hand searches covering the period February 2007 to October 2008 were completed for the journals that had published the included studies. This was done to help ensure that studies not yet added to the databases were included in the review.

Inclusion and Exclusion Criteria

To be included in this review, the article had to describe a research study that included video modeling with at least one person with EBD. The educational concept of EBD has undergone an evolution of labels in the past 50 years (Webber & Plotts, 2008). In the early 1900s several advocacy groups lobbied to have the terminology changed to reflect the term *emotional/behavioral disorders,* to no avail (Yell, Meadows, Drasgow, & Shriner, 2009). Different terms were used and included *emotionally disturbed, emotionally impaired, behavior disordered* interchangeably in the federal regulations resulting from Public Law 94-142. Prior to the 1997 reauthorization of IDEA, the term for the special education category containing individuals with EBD was *serious emotional disturbance (SED)* and, in the IDEA Amendments of 1997, the word "serious" was dropped from the definition and federal terminology was changed to *emotional disturbance (ED)* (Yell et al., 2009). The time span of the articles in this review is from 1974 to 2005; therefore, all the above terms were included in this review (see Table 1).

Video modeling was defined as observing a model (or oneself) via a television or computer screen while the model engages in the behavior targeted for intervention (Buggey, 1995; Hartley, Bray, & Kehle, 1998). Examples of video modeling include watching a tape of: (a) oneself engaging in an appropriate social interaction; (b) a peer following teacher instructions in the classroom; or (c) oneself receiving praise from the teacher following correct response. Studies in which the description of participants was too vague to determine if the label of EBD was appropriate were excluded.

Data Extraction

Each included study was classified into one of three possible categories by its dependent variable. The categories are (a) increasing peer interaction; (b) increasing on-task behavior; and (c) decreasing inappropriate behavior. These categories were chosen as they provided a clear representation of all the identified studies while also providing a useful means for organizing the following discussion. Once categorized, each included study was summarized in terms of the following features: (a) participant characteristics; (b) intervention procedures; (c) dependent variable; and (d) results.

Analysis of Results

Percent non-overlapping data (PND) is one method of synthesizing single subject data (Scruggs & Mastropieri, 1998). A higher PND suggests that the participant's behavior changed in the desired direction (e.g., increased class participation or decreased challenging behavior) during or following intervention. A lower PND suggests that the intervention may have failed to change behavior in the desired direction. While several other methods for synthesizing single subject data exist (e.g., Standard Mean Difference, Percentage Reduction Measure), a recent review and empirical comparison of these methods found consistent results across methods (Olive & Smith, 2005). Therefore, PND was chosen for its simplicity.

To calculate PND for behavior reduction, the lowest baseline data point is identified. Next, the data points in the intervention phase that fall below the lowest baseline point are counted. This number is then divided by the total number of data points in the intervention phase (data points below lowest baseline point + data points equal to

and above lowest baseline point). The quotient is then converted to a percentage by multiplying by 100. For behaviors in which an increase is desired, the highest baseline point is identified and identical calculations are made, except that the number of intervention data points above (instead of below) the highest baseline point is used as the divisor. PND cannot be calculated when a zero quantity is in the baseline of reduction studies or a maximum possible quantity is found in behavior increase studies (Olive & Smith, 2005). When a design contains more than one baseline phase (e.g., an ABAB design), only the first baseline phase is used in the calculations. For studies containing multiple participants, a mean PND for all participants was calculated for each dependent variable.

PND could not be calculated for five of the 16 studies. Two studies reported a zero quantities in baseline for an intervention to reduce aggression (Lonnecker, Brady, McPherson, & Hawkins, 1994; Osborne, Kiburz, and Miller 1986). Two studies did not display individual data points, but instead reported only means (Embregts, 2002; Schwan & Holzworth, 2003). Finally, Walther and Beare (1991) utilized an experimental group design. For these studies the results are reported in the terms used by the authors of those studies.

Inter-rater Agreement

In order to obtain a measure of inter-rater agreement on the inclusion of studies, the author of this review independently conducted the search and applied the inclusion and exclusion criteria. The author independently generated a list of studies to include in the review. The author and another graduate student independently reviewed one of the

articles from the list. Responses from the author and the graduate student were used to calculate the percent agreement (i.e., agreements by disagreements plus disagreements). An inter-rater reliability of .90 was achieved. Once inter-rater reliability was established, and the author reviewed all coded articles, a meeting was conducted with the graduate student to resolve outstanding questions. After reviewing the articles a second time, the studies were summarized in Table 1.

Results

Participant Characteristics

Sixteen studies published between 1974 and 2005 involving a total of 93 participants were included in this review (M = 3 participants per study). Thirteen studies included one to six participants. Three studies had 11 or more participants (Falk et al., 1996; Kern et al., 1995; Schwan & Holzworth, 2003). Participants ranged in age from five to 18 years. Thirteen studies included participants in elementary school and three in high school (e.g., Osborne, Kiburz, & Miller, 1986). Four studies included participants identified as having a second diagnosis in addition to EBD (i.e., ODD and ADHD; and PDD) (Embregts, 2000, 2002; Kern et al., 1995; Lonnecker et al., 1994). Two studies included participants identified as individuals with mild intellectual disability (Embregts, 2000, 2002). Of the 16 studies reviewed, only one identified the ethnicity of the participants (Falk et al., 1996).

Intervention Procedures

Eleven studies used video modeling plus discussion with a teacher or therapist following the viewing of the tape (Booth & Fairbank, 1984; Embregts et al., 2000, 2002;

Esveldt, Dawson, & Forness, 1974; Falk et al., 1996; Kehle, Clark, Jenson, & Wampold, 1986; Kern-Dunlap et al., 1992; Kern et al., 1995; O'Reilly et al., 2005; Osborne et al., 1986; Walther & Beare, 1991). Four studies utilized video self-modeling plus discussion (Clare, Jenson, Kehle, & Bray, 2000; Davis, 1979; Schwan & Holzworth, 2003; Woltersforf, 1992). Six studies combined video modeling (or self-modeling) and discussion with other intervention components (i.e., investigator questioning, self-management strategies, reinforcement of appropriate behavior, role play, self-observation, and self evaluation). Four studies required the use of editing equipment to depict models engaging in the target behavior (Clare et al., 2000; Esveldt et al., 1974; Kehle et al., 1986; Lonnecker et al., 1994; Woltersdorf, 1992). Videotapes ranged in length from five to 20 minutes. Interventions were conducted in schools (n = 13), clinics (n = 1) and residential facilities (n = 2).

Experimental Designs

The studies demonstrated experimental control using several types of research designs including multiple baseline (e.g., Wolstersdorf, 1992), withdrawal (Kern-Dunlap et al., 1992), and experimental group design (Schwan & Holzworth, 2003). Five studies collected maintenance or generalization data (Clare et al., 2000; Kehle, et al., 1986; O'Reilly et al., 2005; Osborne, 1986; Woltersdorf, 1992). Fourteen studies collected inter observer agreement and four collected social validity data.

The following section presents an overview of studies according to treatment category (i.e., increasing peer interaction, increasing on-task behavior, and decreasing inappropriate behavior). Within each category, one or two studies are described which

typify that category. The purpose of the description is to provide more detailed examples of how video modeling has been used in each category.

Table 1
Summary of studies utilizing video modeling with individuals with E/BD

Category & Citation	*Participant Characteristics*	*Intervention Procedures*	*Dependent Variable* and Results*
I. Increase Peer Interaction			
Falk et al., 1996	11 girls and 7 boys 11 to 14 years old EBD	video modeling reinforcement discussion	*Appropriate peer interactions* increased *M* PND = 68% (range, 5% to 100%) *Inappropriate peer interactions* decreased *M* PND = 56% (range, 0 to 100%)
Kern-Dunlap et al., 1992	5 boys 11 to 13 years old EBD[1]	video modeling self-evaluation reinforcement discussion	*Desirable interactions* increased *M* PND = 39% (range, 13% to 73%) *Undesirable interactions* decreased *M* PND = 53% (range, 0 to 83%)
Kern et al., 1995	3 girls and 8 boys 8 to 13 years old EBD	video modeling self-evaluation reinforcement discussion	*Appropriate interaction per hour M* PND = 37% (range, 0 to 71%) *Inappropriate interactions* per hour *M* PND = 45% (range, 0 to 100%)
II. Increase On-Task Behavior			
Booth & Fairbank, 1984	1 boy 9 years old ED[3]	video modeling self monitoring discussion	*On-task behavior* increased PND =100%
Clare et al., 2000	3 boys 9 to 11 years old LD[4] & SED[5]	video modeling discussion	*On-task behavior* increased *M* PND =100%
Walther & Beare, 1991	1 boy 10 years old EBD	video modeling discussion	*On-task behavior* increased PND could not be calculated

Table 1. *(continued).*

Category & Citation	*Participant Characteristics*	*Intervention Procedures*	*Dependent Variable and Results*
III. Decrease Inappropriate Behavior			
Davis, 1979	1 boy 11 years old behavioral excesses	video self-modeling discussion	*Inappropriate response* decreased PND 65%
Embregts, 2000	1 girl and 5 boys 14 to 18 years old ADHD, ODD, CD PDD, MMR[7]	video modeling self management discussion reinforcement	*Inappropriate behavior* decreased *M* PND = 68% (range, 0 to 100%)
Embregts, 2002	3 girls and 2 boys 14 to 17 years old ADHD, ODD, CD PDD, MMR	video modeling discussion reinforcement	*Appropriate behavior* increased *Inappropriate behavior* decreased
Esveldt, et al., 1974	3 boys 10 years old BD[6]	video modeling behavior conference	*Appropriate behavior* increased *M* PND = 14% (range, 4% to 30%)
Kehl, et al., 1986	4 boys 10 to 13 years old, BD	video modeling self-observation discussion reinforcement	*Inappropriate behavior* decreased *M* PND = 92% (range, 66% to 100%).
Lonnecker et al., 1994	2 boys 7 to 9 years old, LDBD	video self-modeling researcher questioning role play discussion	*Cooperative behavior* became more frequent *Inappropriate behavior* became less frequent, PND could not be calculated
O'Reilly et al., 2005	2 boys 10 years old BD	video modeling self-management discussion reinforcement	*Pro-social* behavior increased *M* PND = 15% (range, 0 to 29%) *Aggression* decreased *M* PND = 47% (range, 42% to 52%)

Table 1. *(continued).*

Category & Citation	*Participant Characteristics*	*Intervention Procedures*	*Dependent Variable and Results*
Osborne et al., 1986	15 year old male BD	video modeling discussion	*Hitting* became less frequent PND could not be calculated
Schwan & Holzworth 2002	26 elementary-aged BD	video self-modeling discussion	*Inappropriate behavior* significantly decreased from pre-post test F = 10.43 (df = 1 p. < .01)
Woltersdorf, 1992	4 boys 9 to 10 years old ADHD Disordered Behavior	video self-modeling discussion	*Fidgeting* decreased M PND = 25% (range, 8% to 57%)

[1]EBD = Emotional Behavioral Disorder
[2]MBL = Multiple Baseline
[3]ED = Emotional disturbance
[4]LD = Learning Disabled
[5]SED = Seriously Emotionally Disturbed
[6]BD = Behavior Disorder
[7]Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD), Conduct Disorder (CD), Pervasive Developmental Disorder (PDD) and Mild Mental Retardation (MMR)
M PND = Mean Percent non-overlapping data
**Italics* denote the name of the dependent variable

Overview of Categories

Peer Interaction

Three studies focused on improving peer interactions using video modeling (Falk et al., 1996; Kern et al., 1995; Kern-Dunlap et al., 1992). Verbal and nonverbal

interactions include such behaviors as making validating statements (e.g., “good job”), gestures (e.g., thumbs up signal), or supportive touches (e.g., high fives).

Kern-Dunlap et al. (1992) evaluated an intervention package that included: (a) observation of videotapes following regularly-scheduled peer activity sessions; (b) self-evaluation; and (c) delayed feedback and reinforcement for desirable peer interactions. The goal of the study was to increase the number of the interactions of five elementary aged boys enrolled in a self-contained classroom. Twenty-minute activity sessions (i.e., playing board games) were videotaped daily. Individual 10- to 20-minute video modeling sessions were held daily for each participant. During the videotape modeling sessions, the students were asked to provide several examples of desirable and undesirable peer interactions. Students then viewed the videotape from the activity session held the previous day. After viewing, they responded to statements such as “I had desirable peer interactions,” with a “yes” or “no” and recorded the response on a self-assessment recording sheet. Students were then awarded one point for demonstrating desirable peer interactions and for accurately evaluating their behavior. The points were exchanged for small rewards at the end of the session. The intervention resulted in reduced levels of undesirable peer interactions and increased levels of appropriate interactions for all of the students.

On-task Behaviors

Three studies focused on increasing on-task behavior (Booth & Fairbank, 1984; Clare et al., 2000; Walther & Beare, 1991). On-task behaviors are commonly defined as complying with teacher-delivered instructions, purposefully manipulating instructional

materials in a manner consistent with their function, orienting toward and attending to an adult delivering instructions, and/or the absence of inappropriate or distracting classroom behaviors (e.g., sitting appropriately at the desk, performing assigned task, and complying with classroom rules) (Alberto & Troutman, 2006).

Walther and Beare (1991) examined the effects of videotaped modeling on the on-task behavior of a fourth-grade male in a self-contained classroom for students with EBD. The student was videotaped at least once daily during individual seatwork. The student and teacher viewed a 10-minute segment of the tape of the student; the student recorded and graphed his own on-task behavior. The teacher debriefed the student by asking three questions: (1) What did you see that was good? (2) What would you like to change? (3) What did you notice most about your behavior? The student and teacher then discussed his responses. The intervention required between 15 to 20 minutes following class daily. A reversal design demonstrated substantial increases in the student's on-task behavior when the intervention was in place.

Inappropriate Behavior

Ten studies focused on decreasing inappropriate behavior (see Table 1). Inappropriate behaviors were defined as out-of-seat behavior, argumentative interaction with teachers or peers, hostile or aggressive behavior (e.g., hitting, kicking), being inattentive (e.g., reading a comic book as opposed to attending to instruction), and exhibiting self-injurious behavior (e.g., hitting self). Esveldt and colleagues (1974) analyzed the effects of three different forms of feedback (teacher conference, videotape feedback without teacher discussion, videotape feedback with teacher discussion) on

classroom behavior. The participants included three in-patient elementary-aged children who engaged in inappropriate behavior. Sessions were conducted at a neuro-psychiatric institute. Two of the students were part of the experimental group, while one was part of the control group. The study was conducted across six phases including follow-up. During each phase the experimental participants were observed under different conditions. In order, conditions one though six included: (1) baseline (i.e., data collection for all participants with no intervention); (2) discussions with the teacher that focused on nonproductive behavior and more productive alternative behaviors; (3) informing the participants that they might be videotaped; (4) viewing edited videotape of both productive and nonproductive behavior without further discussion; (5) viewing edited tape of behavior with follow-up discussion; and (6) maintenance data collected five weeks following the removal of all intervention components. The results indicated a substantial increase of appropriate classroom behavior and a decrease in inappropriate behavior for both students. The control student made no improvements.

In a second example, O'Reilly et al. (2005) used video modeling in conjunction with self-management strategies to decrease schoolyard aggression and increase pro-social behavior in two elementary-aged students with behavioral disorders. During the intervention phase the participants were introduced to drawings depicting aggressive and pro-social behaviors and were asked to label each as "nice behavior" and "not nice behavior." The therapist then showed the students a five-minute video clip of themselves playing in the yard. The students were then asked to indicate whether their behavior in the tape was "nice behavior" or "not nice behavior". If they answered accurately, they

received verbal praise. The therapist reviewed the significance of being nice to students during recess. A multiple baseline design across participants, with an embedded reversal design for the second participant, demonstrated an increase in pro-social behavior and decrease in aggressive behavior. Maintenance data collected up to two months after the intervention had ceased demonstrated that improvements achieved during intervention had been maintained.

Discussion

This review had two aims: (1) evaluate the potential effectiveness of video modeling with the EBD population; and (2) identify areas for future research. In regard to the first aim, all 93 participants included in these studies experienced at least some improvement in targeted behaviors following video modeling. These findings are consistent with previous reviews in suggesting that video modeling may be an effective intervention in improving social and behavioral deficits in challenging populations (Buggey, 1995; Dowrick, 1999; Hitchcock et al., 2003; Meharg & Woltersdorf, 1990).

Some possible advantages to using video modeling with the EBD population are highlighted by this review. First, video modeling can be conducted in a manner that limits intrusiveness. For example, in some instances it is possible to keep children who are not directly involved in the study uninformed as to the purpose of taping. In these instances the possible stigmatization of the student receiving an intervention may be reduced. Second, classroom routines may be disturbed less by video taping (to be used for intervention following the classroom period) than interventions that require additional specialized interaction between the teacher and an individual student during class. Third,

actively involving the student in the self-evaluation process (as is done when watching and discussing a self-modeling video) appears to enhance an individual's ability to accept responsibility for his own behavior (Booth & Fairbank, 1984).

Perhaps one of the most promising aspects of video modeling is that the focus is not punitive, but rather instructive and designed to empower students. This is relevant, because minority students are disproportionately represented in the category of EBD; African American, Latino, and Native American students tend to receive more punitive and segregating interventions than their counterparts (Osher et al., 2007 Sheppard & Benjamin-Coleman, 2001). According to Cartledge and Milburn (1996), interventions that are non-punitive may be more effective with African American youth than exclusionary or punitive practices. The promising evidence reviewed here suggests that video modeling may be particularly effective when working with students from culturally-diverse groups.

In regard to the second aim, this review identifies several areas in which future research is warranted. Esveldt and colleagues (1974) contend that implementing video modeling as a single intervention without reinforcement or discussion may decrease its effectiveness. While this assertion seems reasonable, no research exists evaluating it. The video modeling procedures reviewed here were all part of intervention packages. Therefore, it is not possible to determine whether the change in the dependent variable was due to video modeling alone or, for example, the reinforcement awarded after discussing the video with the teacher (e.g., Kern-Dunlap et al., 1992). Because additional intervention components may complicate interventions and could potentially lower an

intervention's acceptability for some teachers, future research should isolate the various components (e.g., teacher feedback, role-play, and positive reinforcement) to determine the most economical video modeling intervention and how best to tailor the intervention for individual students and contexts.

Second, assessment of social validity (i.e., classroom feasibility and suitability) was not measured consistently across studies. Feasibility of an intervention can be influenced by the time and effort required for implementation, and the resulting level of improvement. Implementation of the video modeling procedure in all the studies took between five and 20 minutes. This could be an advantage for teachers, since they may already have limited time to conduct individualized interventions in the classroom. Kehle et al. (1986) discusses the feasibility of self-observation interventions, pointing out that they are simple to use, require little time to implement, and may be less obtrusive. However, the technology and time required to make tapes may negate these potential advantages. Despite the import of social validity questions, only four of the 16 studies discussed these issues (Clare et al., 2000; Embregts, 2002; Falk et al., 1996; Kern et al., 1995). While the results of these studies suggest that video modeling may be a socially-valid intervention, additional and detailed research regarding social validity is warranted.

Third, future research should report the ethnicity of participants. Empirical evidence concerning a disproportionate representation of minorities in the category of EBD suggests information regarding the ethnicity of participants is important (Webb-Johnson, 2002). In particular, African American and Native American students tend to experience higher rates of identification as having EBD (Bullock & Gable, 2006; Osher

et al., 2007). However, of the 16 studies reviewed, only one (Falk et al., 1996) reported ethnicity. Future research should report ethnicity, as this information would further strengthen the contributions of video modeling studies. Reporting more information regarding participants' characteristics may assist practitioners in determining whether video modeling would be an appropriate intervention for a particular student, and could further contribute to research regarding social validity.

Finally, research in which the participants and contexts better match the population demographics of individuals with EBD is needed. For example, out of 16 studies, only three included participants who were in high school (e.g., Osborne et al., 1986), and only four included females (Falk et al., 1996; Kern et al., 1995; Embregts, 2000, 2002). While the majority of students identified with EBD are male, females do represent 23.6% of the EBD population (U.S. Department of Education, 1998; Yell et al., 2009). Additionally, a large number of children with EBD are high school age and the efficacy and validity of video modeling may to some extent be influenced by an individual's developmental level. Moreover, more of the studies reviewed were conducted in special education classrooms or residential facilities and clinics than were conducted in general education settings. The NCLB Act of 2001 requires students with special needs to be educated in the least restrictive setting possible. Research should reflect this requirement and strive to conduct studies within the least restrictive context possible (Mooney, Epstein, Reid, & Nelson, 2003).

Due to the challenges that students with EBD face in the educational system both academically and behaviorally, it is imperative that we continue to empirically examine

interventions designed for this population. Although we have made some progress with altering the behavior of these students with the use of video modeling procedures, there is still much to be done to ensure positive academic and behavioral outcomes for students with EBD.

Significance of this Study

Based on this extensive review of the literature, an emotional and behavioral disorder is characterized by inappropriate social skills (Kaufman, 2005). Problematic behaviors are an additional source of interference with effective functioning of some individuals diagnosed with an EBD. The literature covering video modeling as a method of implementing role-play and modeling principles extends back to the early 70's, when such applications began to be investigated. Grounded in Bandura's modeling theories, which implies that individuals learn vicariously, video self-modeling allows the individual to observe him/herself appropriately performing the behavior that has been problematic. Being able to see oneself as a model gives the individual the belief that one has the ability to learn and perform to one's potential. The specific social characteristics of students with EBD make methods that use self as a model viable candidate for teaching difficult social skills and facilitating development. Video modeling is a visually-based intervention that isolates components of social information and visually task analyze skills to teach individuals more appropriate social skills.

Analysis of previous research has highlighted the effectiveness of using video modeling with students with EBD; several gaps were discovered. These included a lack of participant characteristics, limited inclusion of females as participants, and limited

number of studies conducted in inclusive settings. Despite the array of studies conducted using video modeling as an intervention with individuals with EBD, presently no study focuses primarily on culturally and linguistically diverse secondary students with this diagnosis in inclusive settings. Past applications of video modeling with other special populations in educational settings, addressing a range of behaviors, serves as an excellent motivator for this study. Potential uses of video modeling in inclusive setting to improve social skills offer students with behavioral disorders numerous possibilities. To enhance the body of knowledge on emotional and behavioral disorders it is imperative to investigate whether specific researched-based interventions are more effective for teaching social skills to this population. This investigation would provide the opportunity to advance the field of education for students with EBD.

Recognizing and acknowledging the gaps in the literature have provided the primary researcher insight into what variables should be highlighted in future research. Using this literature review as a guide, focus can be placed on the holes that currently exist. Therefore, this information makes clear the direction of the research and the methodology of the present study.

Therefore, this study will include secondary students in inclusive settings and clearly identify relevant participant characteristics (age, grade, ethnicity, category of disability). Because of the emphasis on inclusion, it is imperative for research to be conducted in inclusive settings. More students with EBD are being included in regular education classes with supports and services provided by general and special education teachers (Yell, Meadows, Drasgow, & Shriner, 2009). Also, including CLD secondary

students (including females) in research will advance the field of special education. This is because it reduces the bias in recognizing that females, although underrepresented in the category of EBD, represent a significant percentage of such individuals. In most of the studies involving video modeling, the researchers included some form of intervention package. Using an intervention package makes it difficult to determine whether the video modeling intervention was the primary cause of the improvement in the dependent variable. Therefore, using video modeling as the independent variable without providing feedback or discussion will allow the researcher to show that video modeling is an effective intervention when used alone.

Allowing students with ED to be actively involved in the process of identifying target behaviors, demonstrating desired behaviors, and creating the videotapes allows them to accept responsibility and take ownership for their behavior. Also, social validity data will be collected. This is critical for research because it allows the participants and critical stakeholders an opportunity to voice their perspective and give feedback about the relevance and effectiveness of the intervention and how it impacts the fidelity of implementation of the treatment in the future.

The goal of this study is to extend previous research by investigating the effectiveness of video self-modeling with CLD secondary students with ED in decreasing inappropriate social behavior in inclusive settings. This dissertation will seek to answer the following questions: Do CLD secondary students with ED respond positively to video self-modeling (VSM) intervention? Is VSM effective in decreasing inappropriate social behaviors with CLD secondary students with ED in inclusive settings? Is VSM effective

in increasing appropriate behaviors with CLD secondary students with ED in inclusive settings?

CHAPTER 3

METHOD

The purpose of this chapter is to describe the methodology used in this study. A description of how access to the school district was granted is provided. Participant characteristics are described, followed by a description of the setting, data collection, and experimental design and procedures. A detailed account of the collection of generalization, data analysis, treatment fidelity, and social validity data is also given.

The school district was chosen based on the primary investigator having easy access, because she was a previous employee. Prior to commencing the study, the primary investigator met with the special education director, and provided information on the purpose and pertinent details of the study. This information was then presented to the superintendent of the school district for final approval. Once approval was obtained, the primary investigator obtained consent to conduct the study from the high school principal, and IRB approval was awarded. An informal meeting was scheduled with the Licensed Specialist in School Psychology (LSSP) and educational diagnostician to discuss potential participants.

Participants

Four students diagnosed with an emotional disturbance (ED) – Kate, Carol, Leonard, and George (pseudonyms are used to protect the confidentiality of the participants) attending regular education classes participated in the study. Table 2 provides participant characteristics: gender, age, grade, ethnicity, and diagnosis. Ages of the participants ranged from 15 to 18 years (M = 17 years). The participants were

secondary students from a public high school in a rural school district in the south central part of the United States. The primary investigator was a former employee of this district and was therefore able to obtain the necessary information. The special education director provided the primary investigator with a list of all the students diagnosed with ED within the school district. This list contained information such as the students' name, date of birth, age, ethnicity, sex, grade, and disability(s). The primary investigator met with the special education teachers and LSSP from the secondary campuses to select potential participants. The criteria used in participant selection were: (a) a diagnosis of ED by an LSSP, using the state and/or federal guidelines of the Individuals with Disabilities Education Act; (b) a documented discrepancy in classroom social behaviors relative to their peers (i.e., teacher interviews and discipline records); and (c) enrolled in a public secondary school (6^{th} through 12^{th} grade) and attending some classes in an inclusive setting (ranging in age between 13 and 21). This information was confirmed by reviewing records in the special education cumulative folders. Prior to conducting the study, informal teacher interviews, informal observations, and review of records were completed to determine if the participants were appropriate for the study. Following a meeting with the primary investigator, informed consent for participating in the study and videotaping was obtained from the parents and target participants (see Appendix B for a sample of the consent form used with the parents). During the meeting, the primary investigator explained the purpose, procedures, benefits, and risks involved in this research study. An assent form for youth between 13 and 17 years of age was signed by the

participants. Although one participant was beyond the age of the assent form, it was explained to her and the primary investigator recommended that she sign the form.

Kate was an 18-year-old African-American female diagnosed with ED. According to a previous educational evaluation dated 2/20/07, Kate met the criteria as a student with an emotional disturbance in the areas of: (a) an inability to build or maintain satisfactory relationships with peers and teachers; and (b) a general pervasive mood of unhappiness or depression. Kate's IQ was measured using the Woodcock-Johnson III Test of Cognitive Abilities, and her GIA (General Intellectual Ability) was 82, which falls in the low average range. Kate currently has a behavior intervention plan to work on increasing compliance with teachers, task completion, to refrain from verbal and physical aggression, and to refrain from disruptive behavior (e.g., laughing out loud). At the time of the study, the teachers' primary concern regarding Kate's behavior was to reduce her disruptive behavior which included laughing obnoxiously out loud.

Carol was a 15-year-old Caucasian female diagnosed with ED and a specific learning disability (SLD). According to a previous educational evaluation dated 10/5/2009, Carol met the criteria as a student with an emotional disturbance in the areas of: (a) an inability to learn that cannot be explained by intellectual, sensory, or health factors; and (b) an inability to build or maintain satisfactory interpersonal relationship with peers and teachers. Carol's IQ was measured using the Woodcock-Johnson III Test of Cognitive Abilities, and her GIA was 79, which falls in the low range. Carol currently has a behavior intervention plan to address reducing her disruptive behaviors (e.g., use of inappropriate language), and time off task in the classroom which includes outbursts,

talking to other students, and not completing work. At the time of the study, the teachers' primary concern regarding Carol's behavior was to reduce her use of profanity in the classroom.

Leonard was a 17-year-old Hispanic male diagnosed with ED. According to a previous educational evaluation dated 6/2/2009, Leonard met the criteria as a student with an emotional disturbance in the areas of: (a) an inability to learn that cannot be explained by intellectual, sensory, or health factors; and (b) a general pervasive mood of unhappiness or depression. Leonard's IQ was measured using the Woodcock-Johnson III Test of Cognitive Abilities, and his GIA was 84, which falls in the low average range. Leonard currently does not have a behavior intervention plan. At the time of the study, the teachers' primary concern regarding Leonard's behavior was to increase his ability to request help from the teacher.

George was a 17-year-old African-American male diagnosed with ED. According to a previous educational evaluation dated 4/18/2008, George appears to meet the criteria as emotionally disturbed in the area of inappropriate types of behavior or feelings under normal circumstances. George's IQ was measured using the Wechsler Intelligence Scale for Children-Fourth Edition (WISC-IV), and his full scale IQ was 77, which falls in the low range. George's behavior intervention plan goal is for him to follow known rules, respect authority figures, and complete his work so he can succeed in school and daily living. At the time of the study, the teachers' primary concern was George becoming frustrated and not completing his assignments, so he needs to request help from the teacher when needed.

Table 2

Participant Characteristics

Participant	Gender	Age	Grade	Ethnicity	Diagnosis
Kate	Female	18	10	African-American	ED
Carol	Female	15	9	Caucasian	ED, SLD
Leonard	Male	17	11	Hispanic	ED
George	Male	17	10	African-American	ED, SLD

Settings

The study took place on a high school campus. The setting for each participant was chosen based on teacher and student preference as well as where inappropriate social behaviors typically occurred. Each setting was a general education classroom with the exception of where generalization data was collected, which was the cafeteria for Kate and Carol, and Leonard's off-campus job. Generalization data was collected in George's English class. Because the school year ended and due to time constraints, two of the participants had to attend summer school. Consequently, during the final session of the maintenance phase, generalization data was collected for Carol (session 30) and George (session 23) in a different classroom with teachers with whom they had never worked. All settings were places the participants were normally allowed. Videotaping took place at the participant's school during regular school hours in an unoccupied classroom. Viewing the videotapes occurred in the primary investigator's office with only the

participant and primary investigator present, except for when treatment fidelity data was collected.

Dependent Variable

Selecting and Defining Target Behaviors

In selecting and defining the target behaviors, the primary investigator interviewed the LSSP and the special education behavior monitor teacher to get an idea of which general education teachers to interview who have expressed concerns with the behavior of each participant. For each participant, the primary investigator interviewed two general education teachers. Based on information obtained from the teacher interviews, informal observations and review of records, two dependent variables were contrived: inappropriate behavior and appropriate behavior. Inappropriate behavior was defined as any action or interaction that was considered unacceptable or disruptive in the context of the classroom. Appropriate behavior, on the other hand, was defined as any physical action or interaction that was considered appropriate for the context of the classroom.

Based on interviews with the general and special education staff, the primary investigator was able to get a clear indication of the classes in which the students displayed the most behavioral concerns. Two regular education teachers per participant were chosen for further investigation. The primary investigator interviewed Kate's food science tech and photojournalism teachers. Leonard's career preparation teacher and A-plus recovery lab teacher were interviewed. Carol's German and Algebra I teacher were interviewed. George's Integrated Physics and Chemistry teacher and U.S. History teacher

were interviewed. Each teacher was interviewed individually by the primary investigator and asked to complete the 5 + 5 behavior list (see Appendix D). This list was taken from Cooper, Heron, and Heward (2007). Each teacher was asked to list five good things each participant does now and five things they would like to see the participant learn to do more or less often. Kate and Carol's teachers identified inappropriate social behaviors that they thought occurred at a relatively high occurrence (e.g., laughing obnoxiously out loud and using profanity) that should be decreased. Conversely, Leonard and George's teachers identified behaviors (request help) that they thought occurred at a low occurrence that should be increased. The behaviors listed were undesirable and adversely affected the learning environment. The specific behaviors were observable and measurable and identified on an individual basis, depending on the deficits exhibited by the participant and behavioral goals associated with the student's Individualized Education Plan (IEP) or behavior intervention plan (BIP). The behaviors targeted for change were socially significant, meaningful, and relevant for the individual participants and those who interacted with the participants (e.g., teacher, peers) (Cooper, Heron, & Heward, 2007). To further identify potential target behaviors, the primary investigator interviewed each participant and had them complete a 5 + 5 behavior list (see Appendix C). Each participant listed undesirable behaviors they displayed that adversely affected the learning environment and caused a great deal of anxiety or stress for him/her in the classroom (Buggey, 2009). The primary investigator conducted informal classroom observations prior to interviewing the participants to confirm and clarify the information on the behavior list indicated by the teacher. Once the socially-significant target

behaviors were identified, they were operationally defined so they could be accurately measured and quantified.

The primary investigator met with each teacher and obtained personalized feedback regarding the behaviors after classroom observations and verified the description of each behavior. Table 3 provides the operationalized definitions of the target behavior for each participant. For example, the operational definition for Kate's raucous laughter was laughing obnoxiously out loud.

Table 3

Target Behaviors

Participant	Target Behavior
Kate	Laughing obnoxiously out loud
Carol	Using profanity
Leonard	Asking for help
George	Asking for help

Video Production

Video production occurred after the final baseline data was collected per participant (the Friday before the week the intervention was implemented). Video recording took place in one day and approximately 3 to 5 minutes of footage was collected. The recording occurred in a separate classroom from where observations took place, free from distractions, and involved only the primary investigator and the participant. There were no scripts or role-plays used during the filming of the videotape.

Video self-modeling tapes were made using a video camera with tripod. The primary investigator simply asked the participant to demonstrate the behavior that needed to be modified based on the information reported on the 5 + 5 behavior checklist. For example, Leonard wanted to improve in requesting help from the teacher in class instead of being embarrassed and becoming frustrated. So the primary investigator asked him to demonstrate the appropriate way to ask the teacher for help and filmed him. There was no rehearsal prior to the videotaping. For example, during the videotaping session, the primary investigator and Leonard went into an unoccupied classroom where video equipment was already set up. Leonard was instructed to demonstrate requesting help. He got a textbook and sat at a desk and started reading; when he needed help he would raise his hand and the primary investigator responded to his requests as if she was the teacher. The participant demonstrated the appropriate behavior the entire time. The primary investigator provided no instruction, she only told the participant to demonstrate the desired behavior for the video (Ganz, Cook, Earles-Vollrath, 2007; Sigafoos, O'Reilly, & de la Cruz, 2007). The participant demonstration of the behavior was filmed as a single videotape (Sigafoos, O'Reilly, & de la Cruz, 2007). Using the participant as the model/actor, she/he was videotaped performing the desired behavior (e.g., requesting help from the teacher). The video provided the best demonstration of the desired behavior; no editing equipment was used. One video clip was produced for each participant. The video clips were saved on a DVD for future viewing.

Measurement

Data Collection

Data was collected by the primary investigator and a special education paraprofessional. Data was collected during observations of participants in the general education classroom during academic instruction. The method used to measure the behaviors was determined by the specific dimensions of the target behavior. The frequency of behavior was defined as the number of occurrences of response in a period of time (Kennedy, 2005). To do this, the primary investigator conducted a total of four to six 20- to 30-minute classroom observations for each participant per week during the class period when behaviors typically occurred. Observations were conducted every other day for 14 weeks for Kate and Carol, and eight weeks for Leonard and George. For example, Kate was observed on Monday, Wednesday, and Friday during third and eighth period. Carol was observed on Monday, Wednesday, and Friday during fifth and seventh period. Leonard was observed on Tuesday and Thursday during zero hour and second period. George was observed on Monday, Wednesday and Friday during first and third period. For each participant's behavior a frequency count was calculated to count the number of times the behavior occurred. For each class period, a 20- to 30-minute observation was conducted, and the frequency of the occurrence of the behavior counted. For example, Kate was observed by the primary investigator in both her food science tech class and photojournalism class for 20 to 30 minutes on the same day. During observation, Kate laughed obnoxiously out loud 7 times in the food science tech class during a 30-minute observation, and 10 times in her photojournalism class during another

observation period. Following the last observation period of the day, the primary investigator added the two numbers together for a total of 17 occurrences. Data from each day (session) was plotted in a graphic display; patterns in the data were studied to decide the next step in the experiment. A frequency data sheet (see Appendix E), developed by the primary investigator, was used to collect and analyze data at the end of each session.

Observer Training

Prior to involving the special education paraprofessional in the present study, the primary investigator had school's employee complete the university's human subjects training. To meet compliance with the educational mandate for human participants' protections, the special education paraprofessional completed the required human participant training located at http://www.utexas.edu/research/rsc/humansubjects/training/index.html through the University of Texas Office of Research Support. Since the paraprofessional was not a student or employee of the university, the primary investigator had her sign a form to confirm the successful completion of the human subjects training (see Appendix J).

The primary investigator trained the special education paraprofessional in the behavioral observation technique (frequency count) used in the present study. To establish inter-observer agreement, the paraprofessional engaged in practice sessions, during which she counted the frequency (number of occurrences) while watching a video of Kate's laughing obnoxiously out loud in a classroom. The paraprofessional recorded behaviors in 5-minute segments and then immediately compared her recordings with the

primary investigator. Training continued in this fashion until the observers reached agreement of 91% and 92% on two consecutive segments.

Inter-observer Reliability

Inter-observer agreement (IOA) refers to the degree to which two or more independent observers report the same observed values after measuring the same events (Cooper, Heron, & Heward, 2007). The primary investigator and a second observer simultaneously and independently recorded data on the target behaviors for at least 33% of all sessions for each participant during each phase of the study. Data from the two observers were compared for agreements and disagreements. An agreement was defined as the total number of agreements that the behavior occurred. Any discrepancy between the observer's scoring resulted in a disagreement. The IOA was calculated for each session using the formula:

$$\text{Interobserver Agreement} = \frac{\text{Agreement}}{\text{Agreements} + \text{Disagreements}} \times 100$$

The IOA scores of each session were added together and divided by the total number of sessions in which reliability data were gathered in order to calculate the overall average IOA. The mean IOA combined across all sessions, dependent variables, and participants was 99.5%. Table 5 reports the mean for each phase of the study and each participant individually.

Table 4

Inter-observer Agreement

Participant	Phase 1 Baseline	Phase 2 VSM	Phase 3 Maintenance
Kate	100%	80%	100%
Carol	100%	100%	100%
Leonard	100%	100%	100%
George	100%	100%	100%

Experimental Design and Procedures

A multiple baseline across participants was employed to determine the effects of the video self-modeling intervention. The basic logic of this design was to establish individual baselines by observing consistent response patterns of behaviors; then the independent variable (video self-modeling) was systematically introduced to one baseline at a time (Kennedy, 2005). As such, single-subject methodology was used to evaluate the effect of the independent variable (video self-modeling) on the dependent variable (decreasing inappropriate behaviors and increasing appropriate behaviors). The study comprised three phases: baseline, intervention, and maintenance and generalization.

Phase 1. Baseline

No intervention was provided to the participants in regard to their behavior during this condition. To identify behavioral patterns of target behaviors prior to intervention, baseline data was collected in the inclusive classroom at similar times during the day prior to the intervention. The primary investigator observed the participant in the general

education classroom every other day for 20 to 30-minute intervals demonstrating the target behavior. The primary investigator scheduled observations according to the class schedule of each participant. For Kate and Leonard this was feasible. Kate's course schedule included the A-Plus credit recovery lab for six periods and two elective classes (e.g., food science tech and photojournalism) for two periods. Leonard's class schedule included six A-Plus credit recovery classes, a career preparation class, and two work periods. Carol and George's schedule included eight general education classes. Following the observation, the data yielded a frequency of occurrences of the target behavior. This data served as the primary dependent measure for evaluating the effectiveness of the video self-modeling intervention. Once a stable baseline data trend was established, the video self-modeling intervention was implemented. Given that Kate obtained a stable baseline first, she received the intervention while Carol remained in baseline. This same scenario occurred with Leonard and George. In Carol's case more data points were necessary during this condition because her behavior fluctuated considerably.

Phase 2. Video Self-modeling Intervention

The intervention phase varied in duration for each participant. It lasted a total of six weeks for Kate, seven for Carol, five for Leonard, and four for George. There were several breaks during the intervention phase due to two school holidays, spring break, and TAKS testing. Also, Leonard and George started participating in the study after spring break because two initial female participants decided not to participate. The

intervention phase began immediately after baseline for one participant at a time while the others remained in baseline.

During the intervention phase, the participants viewed his/her individual video clip two to three times a week depending upon how many days per week observations took place. Since there was only one target behavior per participant, only one video was created per participant. To promote consistency, each participant viewed the videotape at the beginning of the school day of the scheduled class period in which observations were to take place. For example, Kate, Carol, and George, viewed the videotape two to three days per week with at least one day between each intervention day. Conversely, Leonard received the intervention twice a week with at least one day between each intervention day. The intervention was staggered across participants. The intervention meeting times were spaced out, with at least one day of non-viewing between them to maximize the potential of the spacing effect (Buggey, 2009).

During the intervention phase, the participant met privately with the primary investigator in her office to view the self-modeling videotape, except for when treatment integrity data was collected. A laptop computer was used to show the video. The primary investigator did not engage the participant in conversation or discussion of the video or its contents during the viewing of the video, other than to provide redirection if the participant was not attending to the video screen. At the end of viewing the videotape the primary investigator only said, “Good job watching the video.”

The primary investigator limited what was said before, during, and after showing the video (Buggey, 2009). The primary investigator provided no reinforcement in regard to the participant's behavior in the video during the viewing.

Phase 3. Maintenance and Generalization

The purpose of generalization is to determine if the target skill learned in the intervention phase is generalized to settings other than the one in which the intervention took place. Generalization data was collected for each participant during each phase of the study. This data was collected in the cafeteria during lunch for Kate and Carol. It was collected at Leonard's work site and in George's English class. The primary investigator must note that during the intervention phase for Leonard, the generalization setting changed, because he had resigned from his job so that he could focus on getting his courses completed. As a result, the primary investigator observed Leonard working in the A-Plus credit recovery lab with another general education teacher. Additionally, since Carol and George had to attend summer school, during the final session of the maintenance phase, generalization data was collected in the general education A-Plus lab for Carol (session 30) and in an Integrated Physics and Chemistry class for George (session 23) with two different teachers. Summer school was an extra nine days of school that students were required to attend if they had failed a section of Texas Assessment of Knowledge and Skills (TAKS) test and/or a core class. A frequency count was used to collect generalization data to obtain the frequency of occurrence of the behavior in a different setting from where the intervention took place.

Maintenance is a way of measuring the sustainability of skills learned over time once the intervention has been discontinued (Kennedy, 2005). Immediately following intervention, maintenance data was collected for each student. This condition was identical to baseline, wherein no intervention was implemented. The examiner observed each participant in her inclusive classroom for a 20- to 30-minute period to collect maintenance data on the target behavior. The purpose of this observation was to collect information on the sustained impact of the intervention for each of the participants. Maintenance data was collected once a week for three weeks for Kate and George, and once a week for two weeks for Carol. It was collected twice in one week for Leonard, because he had final exams one week and had completed the required coursework for graduation and was not required to attend school; therefore no observations could take place.

Data Analysis

A multiple baseline across participants was used in the present study (Kennedy, 2005). The effectiveness of the intervention was analyzed by visual analysis and by calculating the percentage of non-overlapping data (PND) statistic. The data was analyzed visually by evaluating the changes in the target behavior by comparing dimensions of the behavior across conditions (e.g., baseline, intervention, and maintenance) (Morgan & Morgan, 2009). The primary investigator conducted visual analysis of the data in terms of level (means), trend (slope), and variability (range).

The PND statistic is another method of synthesizing single-subject data (Scruggs & Mastropieri, 1998). It was used to measure the effect size and quantify the

effectiveness of the intervention. This analysis was easy to conduct and the statistic was simple to interpret because it required only that the primary investigator calculate the percentage of treatment data that overlaps with the most "extreme" data point (i.e., either the lowest or highest value) exhibited during baseline (Morgan & Morgan, 2009). For instance, to calculate PND for behavior reduction, the lowest baseline data point was identified. Next, the data points in the intervention phase that fell below the lowest baseline point were counted. This number was then divided by the total number of data points in the intervention phase (data points below lowest baseline point + data points equal to and above lowest baseline point). The quotient was then converted to a percentage by multiplying by 100. Morgan and Morgan (2009) suggest that PND scores above 90 denote a very effective treatment, scores from 70 to 90 represent effective interventions, scores from 50 to 70 are questionable, and scores below 50 are ineffective. The mean PND combined across participants was 100% (range, 0% to 100%). Table 5 reports the mean PND for each participant.

Table 5

PND for each participant

Participant	Results
Kate	Laughing obnoxiously out loud decreased *M* PND=100%
Carol	Using profanity decreased *M* PND=100%
Leonard	Requesting help increased *M* PND=100%
George	Requesting help increased *M* PND=100%

Measurement of Treatment Fidelity

Treatment fidelity is the extent to which the treatment is delivered in a manner consistent with the treatment guidelines (Morgan & Morgan, 2009). To ensure the fidelity of implementation of the intervention, a protocol was developed by the primary investigator to help monitor intervention procedure (see Appendix I). The protocol provided a task analysis for procedural fidelity for the intervention phase. The treatment protocol was as follows: (a) the tape was viewed in its entirety; (b) the student watched his/her own videotape; (c) no conversation between the experimenter and the participant took place when the tape was being viewed; (d) the primary investigator provided no reinforcement in regard to the participant's behavior in the video during the viewing of the self-modeling videotape; and (e) the days of viewing the intervention tapes were spaced at least one day apart. Treatment fidelity was assessed by an independent observer for 33% of the intervention sessions for each participant.

Measurement of Social Validity

Social validity is a means of measuring the critical stakeholders' perspective regarding the importance of skills taught, perceived effectiveness, appropriateness, and future use of the intervention (Kennedy, 2005). Social validity data was collected from both the teachers and participants. Each participant completed a questionnaire (see Appendix F) to determine consumer satisfaction regarding treatment. The questionnaire consisted of four questions rated on a 5-point Likert-type scale, which ranged from 1 = strongly disliked to 5 = strongly liked. This measured how much students liked the

classroom observations, the video procedure, viewing themselves on videotape, and the effectiveness of the intervention.

For the teachers, social validity was assessed by a follow-up interview and completion of a questionnaire that consisted of five questions (see Appendix G) to determine consumer satisfaction regarding the effectiveness and acceptability of the video self-modeling intervention, the value of the behavior change outcome achieved, and the affordability of the intervention. Teachers met with the examiner a few weeks after the study was completed. All teachers were asked the same questions that included: "How acceptable did you find the VSM intervention to be for the student's problem behavior?"; "What noticeable changes in the student's behavior were evident because of the intervention?"; "How willing would you be to carry out this intervention yourself?"; "Do you think this self-modeling intervention will help you in the future?" and "Do you think this will be an affordable intervention?"

CHAPTER 4

RESULTS

This chapter presents the results of each phase of this study for each participant; a multiple-baseline across participants design was used to determine the effectiveness of a video self-modeling intervention. Each participant's performance across baseline, VSM intervention, and maintenance is presented in a graphic display. The treatment fidelity results are presented as well as social validity results for both participants and educators.

The results of Kate's intervention are represented in Figure 1. Kate's performance during baseline indicated a high occurrence of laughing obnoxiously out loud (M = 19, range, 17 to 23). Once Kate began receiving the video self-modeling intervention, her laughing obnoxiously out loud behavior decreased (M = 5, range, 3 to 10). Across phases in the generalization setting (i.e., cafeteria), there was a steady decline in her inappropriate behavior, with instances of behavior decreasing in occurrences (M = 5, range, 1 to 9). During the maintenance phase (without intervention), Kate continued to demonstrate a significant decreasing trend in her behavior, with instances ranging from 1 to 2. Treatment PND was calculated at 100%, indicating the VSM intervention was very effective in decreasing Kate's occurrences of laughing obnoxiously out loud.

Carol's performance during baseline indicated an unpredictable trend in her use of profanity (M = 12, range, 7 to 21) (see Figure 1). With the introduction of the video self-modeling intervention, Carol continued to display a moderate decreasing trend (M = 3, range, 0 to 6) in her use of profanity. The level of change in Carol's performance from baseline to intervention was minimal. Across phases, Carol displayed a decreasing trend

in the frequency of inappropriate behavior in the generalization setting (M = 4, range, 0 to 12). During the maintenance phase (without intervention), Carol maintained a nonoccurrence of using profanity. This downward trend across baseline and intervention phases suggests that one cannot conclude the VSM intervention was responsible for the change in Carol's behavior. On the other hand, treatment PND was calculated at 100%, suggesting the VSM intervention was very effective in decreasing Carol's number of occurrences of using profanity.

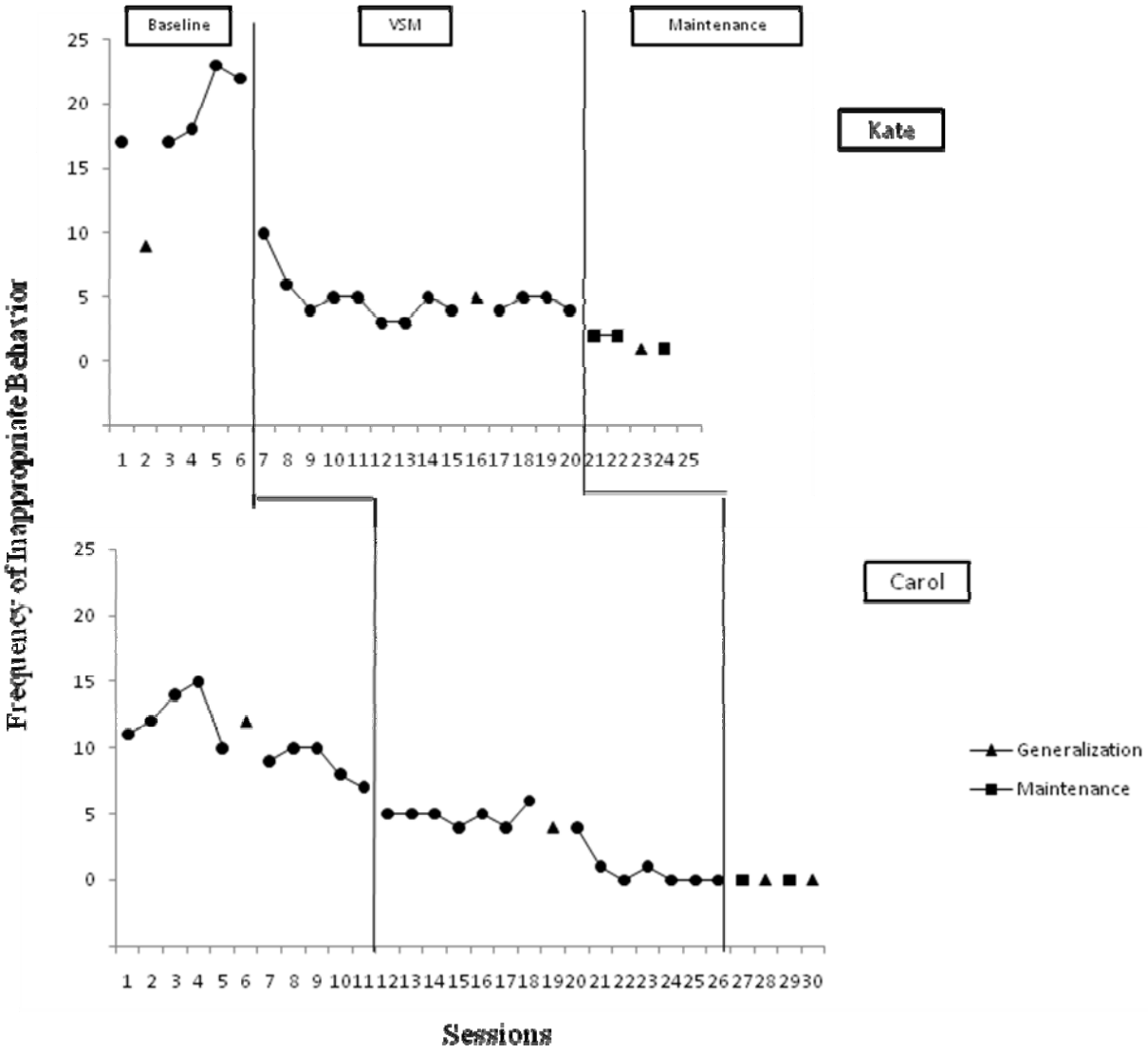

Figure 1. Frequency of occurrence of inappropriate behavior for Kate and Carol. Closed circles across phases represent the frequency of occurrences of inappropriate behavior for both Kate (i.e., laughing obnoxiously out loud) and Carol (i.e., using profanity). Triangles represent the generalization data, and the squares represent maintenance data collected without intervention.

Leonard's performance during baseline indicated a low level of requesting help (*M* =1, range, 0 to 1) (see Figure 2).With the introduction of the video self-modeling intervention, there was an initial increase during session 6, followed by decrease in session 7. For the duration of the intervention phase, Leonard's occurrences of requesting help increased (*M* = 9, range, 4 to 12). Even though he demonstrated a high level of variability in his performance, Leonard maintained an increasing trend. In the generalization settings, his performance continued to increase across phases (*M* = 7, range 2 to 10). During the maintenance phase, Leonard maintained his level of requesting help after the intervention was withdrawn. Intervention PND was calculated at 100%, indicating the VSM intervention was very effective in increasing Leonard's frequency of requesting help.

As shown in Figure 2, George's performance during baseline indicated a low level of requesting help (*M* = 3, range, 1 to 4). Once George began receiving the VSM intervention, there was an immediate increase in his requesting help, which was maintained throughout the intervention phase (*M* = 8, range, 7 to 10). However, during maintenance, George maintained higher levels of requesting help (*M* = 14, range, 13 to 15). The sessions during the maintenance phase were remarkable because George was attending summer school with two teachers with whom he was unfamiliar. In the generalization setting, George's performance continued to demonstrate an increasing trend across phases (*M* = 7, range 2 to 10). Intervention PND was calculated at 100%, suggesting the VSM intervention was effective in increasing his rate of requesting help.

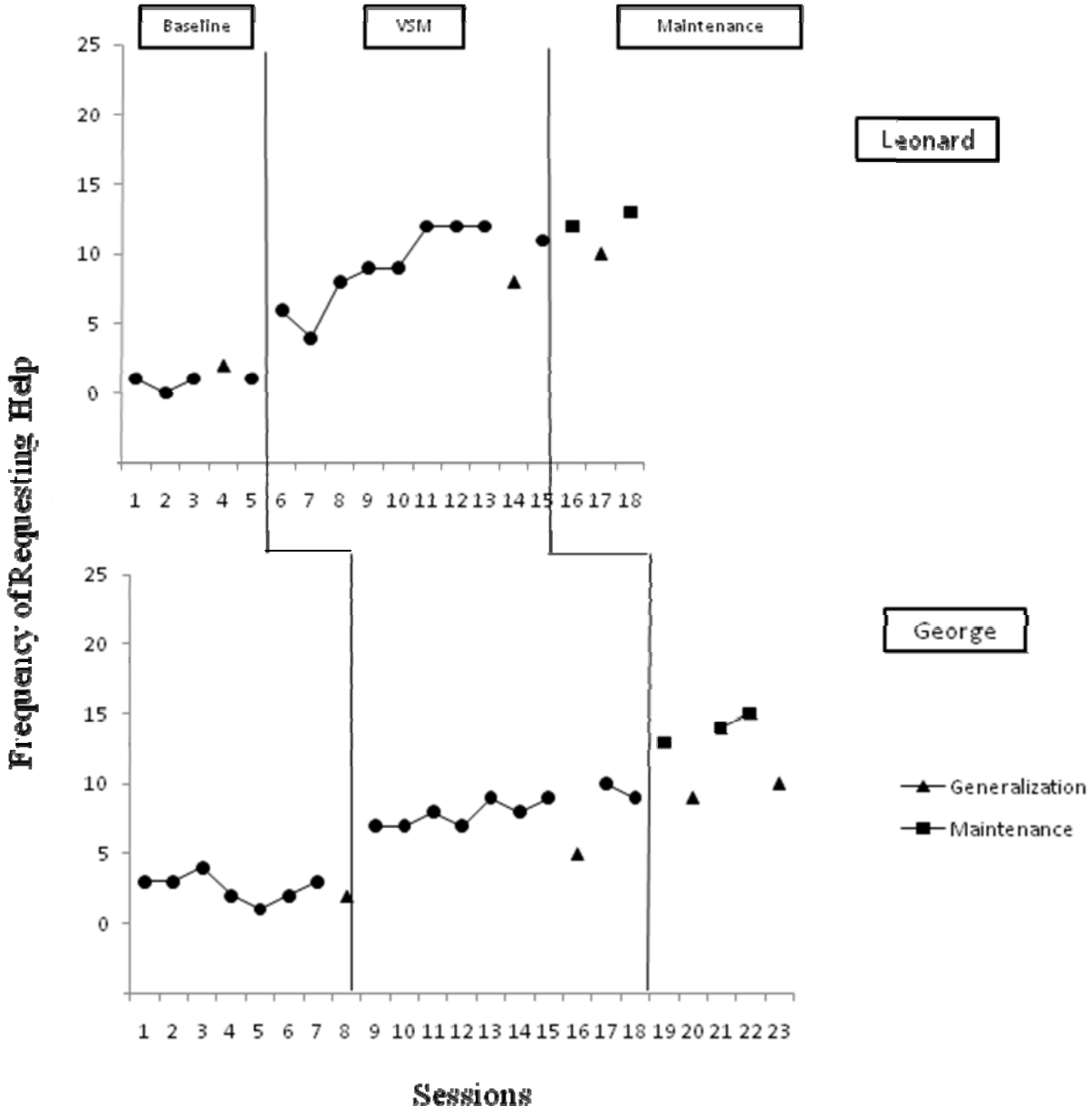

Figure 2. Frequency of occurrences of requesting help for both Leonard and George. The circles represent the number of times each participant requested assistance from the teacher. Triangles represent the generalization data, and the squares represent maintenance data collected without intervention.

Treatment Fidelity

Appendix I provides a task analysis for treatment fidelity for the VSM intervention phase for each participant. Treatment fidelity was calculated by dividing the number of steps completed correctly by the total number of steps in the procedure by multiplying by 100. Treatment fidelity was assessed by an independent observer for 33% of the intervention session for each participant. Table 6 reports the treatment fidelity for each participant during the intervention phase.

Table 6

Treatment Fidelity

Participant	VSM Phase
Kate	100
Carol	100
Leonard	100
George	100

Social Validity

All four participants answered the questionnaire relating to their participation in the VSM study (see Appendix F). Across all evaluations (1 = *strongly disliked*, 5 = *strongly liked*) by the four participants (Kate, Carol, Leonard, and George), the average social validity rating was 3.35 (range from 3.75 to 4.5). The participant's responses indicated an overall satisfaction with the intervention. The responses involving the participants feelings toward being videotaped ranged from *liked* to *strongly-liked*.

Three out of the four participants liked viewing themselves on the videotape. One participant marked *disliked.* In response to the question "Was the video self-modeling intervention effective in changing your behavior?", two participants indicated *liked* and two indicated *strongly-liked*.

Eight general education teachers, an LSSP, a special education lead behavior teacher and the special education department head completed the questionnaire pertaining to the satisfaction and effectiveness of the VSM intervention (see Appendix G). The educators' responses indicated an overall satisfaction with the intervention procedures and outcome. In relation to the acceptability of the VSM intervention for the participant's behavior, all the educators found it to be very acceptable. All educators indicated that they had noticed changes in the students' behavior after the intervention was implemented. One of Kate's teachers made the following remark in regard to Kate's behavior: "Since March of 2010 I have noticed a difference in Kate's behavior….toward the end of the year, Kate seemed to have calmed down a lot. Her loud laughing outburst seemed to be dwindled down toward the end of the year. I noticed that she would start to cover her mouth when she knew that she needed to laugh. That movement seemed to be a trigger that reminded her that she needed to be aware of the obnoxious behavior." Another statement made by Kate's teacher: "Kate is more calm and reserved when entering the classroom." The behavior teacher made this observation in regard to noticeable changes in Kate's behavior, "She is calmer and more respectful." In regard to noticeable changes in Leonard's behavior, the LSSP and his teachers made the following statements, respectively: "Leonard is more productive, does not waste time, is now

asking for help. He has begun to be more of an advocate for himself;" "He began asking for help more often. He went from almost asking 1 time a day to 3 to 4 times;" "Leonard became more involved in class and began asking for assistance."All educators indicated that they were willing to use this intervention and thought it would help them in the future. Given that the primary investigator used the school's video equipment to conduct the study, all the teachers indicated that VSM would be an affordable intervention.

Summary of Results

Overall, the data of the current study indicate positive results. Once the VSM intervention was implemented, all participants showed a level of change in their behavior. The results of the social validity data collected from the teachers and special education staff in the form of a questionnaire measured perceptions of effectiveness, costliness, and likelihood of implementation of the VSM intervention in the future. In general, these ratings suggested that the teachers and special education staff perceived the VSM intervention as an effective and appropriate intervention for the four participants. Treatment fidelity data collected confirmed that the intervention was delivered in a way consistent with its procedures and intent.

CHAPTER 5

DISCUSSION

The primary purpose of this study was to evaluate the effectiveness of a video self-modeling (VSM) intervention on the behaviors of four culturally and linguistically diverse (CLD) high school students with ED. For the purpose of this study CLD was defined as including variables such as race, ethnicity, language, and gender. The findings of this study will be reviewed with respect to the following research questions: Do CLD secondary students with ED respond positively to VSM intervention? Is VSM effective in decreasing inappropriate social behaviors with CLD secondary students with ED in inclusive settings? Is VSM effective in increasing appropriate behaviors with CLD secondary students with ED in inclusive settings? The findings of the present study revealed that video self-modeling intervention appeared to have an immediate and positive influence on decreasing the participants' inappropriate social behavior and on increasing participants' occurrences in requesting help. General education teachers and special education staff also approved of the intervention procedure and reported improvements in each participant's behavior following introduction of the intervention. Generalization data suggested that the skills acquired in the intervention phase were generalized to other settings in the school besides where the intervention took place. Furthermore, maintenance data indicated that all four participants maintained their acquired skills once they were no longer receiving the intervention.

The implementation of a video self-modeling intervention seemed to be successful across all behaviors and with all participants. The VSM intervention led to

swift, significant, positive changes in all participants' behavior. Participant selection and meaningful and relevant target behaviors were chosen not only by the special education staff and general education teachers, but also by the participants. The effectiveness of a video self-modeling intervention on decreasing the inappropriate behaviors (as depicted in Figure 1) and increasing requesting help (as depicted in Figure 2) was examined and demonstrated in the four CLD high school students with ED. Kate and Carol exhibited variable and significant occurrences of laughing out loud and use of profanity episodes during the baseline condition, while Leonard and George displayed variable and decreased occurrences of requesting help during the baseline condition. Also, noting the number of data points used during the baseline condition with Carol was done because her behavior fluctuated substantially; therefore, more data points were necessary to accurately capture the natural range of variation in the behavior. As suggested by Anastas and MacDonald (1994), and (Horner et al., 2005), baseline must be long enough to develop a reliable picture. Informal observations of this initial baseline data revealed that all participants exhibited both inappropriate and appropriate forms of behavior to a degree.

Once the VSM intervention was implemented, an immediate effect was observed across participants' behaviors. A VSM intervention that took place at the beginning of the school day in a separate room from the classroom seems to have caused significant changes in behavior that generalized to other settings within the school. Results show that there was an improvement in behaviors for all participants. These findings regarding change in behaviors and generalization support the positive results of previous studies on

VMS with students with behavior disorders (Booth & Fairbank, 1984; Clare et al., 2000; Esveldt et al., 1974; Falk et al., 1996; Kehl et al., 1986; Kern et al., 1995; Kern-Dunlap et al., 1992; Lonnecker et al., 1994; O'Reilly et al., 2005; Walther & Beare, 1991). Treatment fidelity was vital for the purposes of external validity of the data and for providing a means of replicating the procedures. The current study ensured treatment fidelity by providing clear operational definitions of the target behaviors under treatment, outlining the treatment parameters and procedures, and having all treatments conducted by the researcher. Treatment fidelity data indicate that the primary investigator accurately implemented the video self-modeling intervention. Social validity data suggest that the teachers and special education staff found the VSM intervention a valuable and suitable intervention for students with ED in inclusive settings.

The Integration of the Present Findings with Previous Research

The present study provides evidence of the efficacy of VSM intervention on decreasing inappropriate behaviors and increasing requesting help for four participants diagnosed with ED in inclusive settings. These results corroborate previous findings (Booth & Fairbank, 1984; Lonnecker et al., 1994; O'Reilly et al., 2005), revealing positive outcomes of video self-modeling in decreasing inappropriate behavior and increasing cooperative behavior.

The present study represented a departure from the previous research, and contributes to the effectiveness of video self-modeling with individuals with ED in several ways. First, no previous research has investigated the effectiveness of VSM as a single intervention. In fact, Esveldt et al. (1974) contended that implementing video

modeling as a single intervention without reinforcement or discussion may decrease its effectiveness. The present research addressed this limitation in the literature by demonstrating the efficacy of using VSM as a single intervention without reinforcement or discussion. The primary investigator did not provide any reinforcement or discussion during the intervention phase of the study. The participants were only instructed to watch the video clip and were only redirected if they did not attend to the video. Hence, even without being reinforced or discussing the video clip, all participants demonstrated positive outcomes.

Second, social validity was assessed with the general education teachers, the special education staff (i.e., LSSP, behavioral monitor teacher), and the participants. Assessing social validity is integral to understanding the effectiveness, satisfaction, affordability, and appropriateness of an intervention. The teachers rated the VSM intervention highly, suggesting that it was effective and appropriate. High ratings on the social validity measure are critical for studies in which interventions are provided to students in educational settings, because it reflects the willingness of the teacher to use such interventions in the future. In previous research, social validity was not measured consistently across studies (e.g., Clare et al., 2000; Embregts, 2002; Falk et al., 1996; Kern et al., 1995).

Third, the present study differed from previous research, as it provided adequate participant characteristics (e.g., ethnicity of participants), included culturally-diverse students, females and secondary students. In review of the literature, only one study (Falk et al., 1996) included participants from diverse groups (e.g., Native Americans), and few

included females and high school students as participants (e.g., Embregts, 2000; Embregts, 2002). With the overrepresentation of CLD students in the category of ED (Cartledge, Kea, & Simmons-Reed, 2002), it is critical that they be included in research and adequately identified. Since the ED population tends to be underserved (Smith, Polloway, Patton, & Dowdy, 2004) and is less likely to receive adequate academic and behavioral interventions (Wagner et al., 2006), including these students with ED in intervention research is imperative to their academic and behavioral success. Including CLD students in the current study adds to the literature base. The results of this study are definitely an impetus to investigating the effectiveness of VSM with CLD students with ED. The data legitimizes the fact that this intervention is effective with diverse groups of students.

In addition, two females were included in this study, Kate and Carol, being female added to the significance of the study. Given the fact that females represent 23.6% of the ED population (U.S. Department of Education, 1998; Yell et al., 2009), it is vital that they be included in research. Furthermore, the scarcity of studies including females with ED confirms Cullinan, Osborne, and Epstein's (2004) posit that research pertaining to special education programming for girls with ED is considerably rare. Girls with ED are an understudied population (Rice, Merves, & Srsic, 2008). Research investigating appropriate gender-differentiated interventions for girls with ED is essential if we are to promote the academic and behavioral success of these students (Cullinan et al., 2004). Including individuals from diverse groups and across gender in research will address issues that will advance the field of special education and promote educational reform. As

emphasized by Obiakor (2001), as research is conducted, we must ensure that whatever is done is generalizable across participants and settings. This will guarantee that research findings result in informed decisions regarding special education populations.

Finally, the participants were all enrolled in inclusive classrooms. Although the intervention took place in a separate room from the classroom, the behaviors targeted for improvement prevented the participants from succeeding in the general education setting. The majority of the previous research was conducted in special education settings, clinics, or residential facilities. This limits the generalizability of the results. Conducting research in normalized settings provides general education teachers with the necessary strategies to work more effectively and efficiently with students with disabilities.

Issues of Disproportionate Representation of CLD Students with ED

Of the studies reviewed, only one identified the ethnicity of the participants (Falk et al., 1996). This is relevant because minority students are disproportionately represented in special education programs (Osher et al., 2007; Sheppard & Benjamin-Coleman, 2001). In fact, in response to the national and statewide concerns regarding minority disproportionate representation in special education, the Public Policy Research Institute at Texas A&M University (2010) implemented a comprehensive study of disproportionate representation of minority children in special education across Texas. The results indicate that students who were White, male, low-income, and “at-risk” were the most likely to be placed in special education programs, while Hispanics were inappropriately assigned, and African American students were mistakenly assigned to special education programs. Furthermore, Hispanics tend to be under-represented,

whereas African Americans were over-represented. Hispanic, female, and immigrant or migrant students were the least likely to receive special education services.

One cannot disregard the fact that not only is the number of students being diagnosed with ED increasing (Sawka, McCurdy, & Mannella, 2002), but students from CLD backgrounds are entering public schools in increasing numbers (Cartledge, Singh, & Gibson, 2008; Gollnick & Chinn, 2002; Villegas & Lucas, 2002). Compounding the issues of the increase in the EBD population, the over- and under-representation of CLD students, and inequitable outcomes, is the shortage of and high attrition rate of special education teachers working with these students (Swaka, McCurdy, & Mannela, 2002). The teacher shortage in this area is at least twenty years old. Zable and Zable (1983) pointed to actual shortages of certified teachers for behaviorally-disordered students in most states ranging from 25% to 40%. They anticipated that as this population increased, the number of teachers required to serve them, combined with attrition, would increase and shortages would become more severe. Students with ED pose serious challenges to educators and represent a diverse group of students who exhibit a wide range of characteristics. Compounding this crisis is the fact that CLD individuals are not only over-identified in this category (Oesterreich & Knight, 2008), but they themselves face challenges in our educational system. Some common characteristics between the two are: poor academic performance, high drop-out rates, educated in more restrictive settings, lowest postsecondary attendance and graduation rates, and increased incarceration rates (Bullis &Yovanoff, 2006).

In general, African Americans and Hispanics encompass an excessively large share of the prison population (Hogg, Druyts, Burris, Drucker, & Strathdee, 2008); for the most part, African Americans represent 40% of the youth in detention (Keith & McCray, 2002), and they comprise the largest percentage of the male prison population (45.2%) (Hogg et al., 2008). According to research conducted by Hogg et al., African American males and females can expect to spend on average 3.09 and 0.23 years in prison or jail over their lifetime, respectively, compared to their counterparts. Unfortunately, considering either ethnicity or gender, African Americans spend much more of their life imprisoned than other populations. Additionally, the behavioral styles of African American males are often misperceived as a behavior disorder (e.g., aggression, ADHD), typically resulting in increased rates of suspensions, expulsions, and referrals to behavior programs (Webb-Johnson, 2002; Neal, McCray, Webb-Johnson, & Bridgest, 2003). In fact, students from CLD backgrounds are represented in disproportionately high numbers in the criminal justice system (Hagner, Malloy, Mazzone, & Cormier, 2008) and have lower rates of high school graduation and university attendance (Kaylor & Flores, 2007).

CLD students present with a diversity of languages, perspectives, and learning styles that challenge school systems to develop appropriate culturally-responsive instruction and interventions. Thus, including these individuals in intervention and academic research is imperative to their lifelong success, because once one determines what strategies are effective and produce positive outcomes, there will be more practical techniques for educators to implement with these students. In effect, this was the primary

purpose of this study – to determine the effectiveness of the VSM intervention with CLD students with ED. Therefore, this study adds to the field repertoire of positive and practical interventions that will help these students succeed in school and in life.

The Impact of VSM on CLD Secondary Students with ED

Some possible advantages of using video self-modeling with ED populations are highlighted in the present study. First, according to Booth and Fairbank (1984), involving the students in the self-evaluation process by watching and discussing the video enhances their ability to accept responsibility for their behavior. Also, Baker, Lang, and O'Reilly (2009) maintained that VSM tended to be more instructive and designed to empower students rather than being punitive. In the present study, actively involving the students in the process of identifying behaviors needing improvement, and actually demonstrating the desired behavior while filming the video appeared to enhance the participants' ability to accept responsibility as well as hold them accountable for their own behavior. VSM allowed the participants to see themselves in a positive light. They were able to view themselves performing the desired behavior. Allowing the students to play an active role in the study (e.g., selecting behavior for improvement and developing the video) provided them with an opportunity to be responsible for their behavior, made them responsible for improving their behavior, and held them accountable for their behavior. For example, once the intervention was implemented, Leonard became a strong advocate for himself. He requested a laptop to work on assignments at home and requested the assistance of two teachers with whom he was unfamiliar to help him with math assignments. In a period of two months, Leonard earned 4.5 credits and graduated from high school early.

Additionally, during one of the video self-modeling sessions, Carol made the comment "I can't believe that I sat still for five minutes." Allowing the participants to be major players in this study, and allowing them to develop their own video without feedback or reinforcement, gave them an opportunity not only to know that they can change their behavior, but also see themselves demonstrating the desired behavior. In fact, Bandura clearly identifies video modeling as containing the elements of self-efficacy. He indicated that one advantage of viewing oneself performing successfully is that it provides clear information on how best to perform the skill, as well as enhances belief in one's potential. Furthermore, Mitra (2006) asserts that by collaborating with students to recognize school problems and possible solutions, it reminds teachers and administrators that students possess unique knowledge and perspectives about their schooling that adults cannot replicate. By collaborating with the students in this study to address their behavioral issues in the classroom, students were actively involved in the change process.

Second, Kehle et al. (1986) discussed the feasibility of video self-modeling interventions, emphasizing that they are simple to use, require less time to implement, and may be less intrusive. The results of this study substantiate Kehle et al., since each videotape ranged between 3 to 5 minutes in length, it was very simple to implement, and the participants watched the video in private.

Limitations

There were several limitations in this study. First, a continuous threat to validity in single-subject design is the small sample size. In this study, that threat was exemplified by having only four participants. Another potential threat to validity was the presence of

the researcher in all the observation sessions and the video intervention sessions. An additional threat to validity was the presence of the paraprofessional with whom the participants were very familiar, because she assisted in monitoring three of the participants through the campus behavioral program and had worked with them for several years. Although much attention was given to desensitizing the students to the presence of the researcher and paraprofessional, this cannot be eliminated as a possible source of interference. Another threat to validity was the limited number of observers, which included only the author and the paraprofessional.

Second, two areas that might be described as both a strength and a weakness were the analysis of maintenance and generalization. The collection of maintenance data was limited for all participants, but particularly for Leonard, because he completed school early. It would have been beneficial had data collection been extended in the maintenance stage for all of the participants, to determine the sustainability of skills over a longer period of time. However, feedback from the special education staff and general education teachers reported noticeable changes in behaviors over time for all participants. The collection of generalization data was limited for Leonard as well, because the initial data was collected at his jobsite; but he later resigned and data was taken in the general education credit recovery lab. This could also be viewed as a strength, since Leonard approached two different teachers and requested their assistance with his math course, which in the past would have been difficult for him to do. Additionally, collecting generalization data for Carol (session 30) and George (session 23) during maintenance

was different from the previous settings. Although they maintained their skills, observing them in the same setting across conditions would have made for a stronger outcome.

Third, discrete operational definitions of the target behaviors were not provided. For example, laughing obnoxiously out loud was loosely defined for the observer. It could be suggested that the failure of this present study to operationally define target behaviors resulted in a low level of reliability between the observers. For example, during the intervention phase of the study for Kate, the IOA was calculated at 80%. Not adequately defining the operational definition of the target behavior can seriously impede the validity of the results.

Finally, the social validity questionnaire developed for this study was created by the primary investigator; therefore, it was not standardized and has unknown reliability and validity. Although the teachers and special education staff believed that the targeted changes in behavior were important and that the intervention was acceptable, the results must be interpreted with caution.

Practical Implications

The use of VSM as an intervention offers an array of benefits to teachers who work with students with ED; specifically, its ease in video development and ease of implementation and applicability to a wide range of behaviors (Kern et al., 1995; Clare et al., 2000; O'Reilly et al., 2005). This intervention can be used with an array of social behaviors. The development of appropriate social and behavioral skills is pivotal to the student's learning and development. The VSM intervention may be time and cost efficient compared to other instructional methods (e.g., PBS) and is not punitive. Social

validity has been documented by teachers; it allows minimal classroom distractions, can actively involve the students, and is less intrusive than commonly used interventions. The only barriers foreseen for teachers implementing the VSM intervention would be having adequate time to develop and review the videotape with students in private.

When implementing academic and behavioral interventions, educators must seriously consider behavioral and cultural responsiveness standards. An intervention such as VSM is student-centered, practical (e.g., hands-on), and facilitates empowerment for CLD individuals with ED. It can be considered an overall culturally-congruent intervention strategy. The VMS intervention permits one the freedom to engage the youth in designing the instructional scenes and producing the technology. When the educator allows the youth to take ownership of the instruction by being actively involved, then the intervention is inherently culturally-responsive.

Suggestions for Future Research

The findings of the present study suggest positive outcomes across all participants and behaviors. The sample size was small; however, more research needs to be devoted to substantiating this method for use with individuals with an emotional disturbance. Once there is sufficient validation, it would be beneficial to investigate why this method seems to be so effective. If video alone is the key, it opens up several possibilities of potential methodologies, such as peer modeling and instructional videos. It would be interesting to conduct a study comparing peer and self-modeling.

Future research should involve general education and special education teachers actually conducting the intervention. In this study, they provided input in regard to the

students' behaviors, permitted classroom observations, and provided social validity feedback. If teachers were more involved in implementing the intervention from start to finish and experienced positive results, then they may be more inclined to use the intervention and encourage their colleagues to use it.

Future research should also focus on sustaining teacher behavior that increases fidelity and maintenance of implementation of VSM intervention. Once teachers learn a new strategy for working with students with ED, maintaining their use of that strategy continues to be an issue. This position coincides with that of Gersten, Vaughn, Deshler, and Schiller (1997), who contend that the sustainability of successful interventions depends on the involvement of the professionals who work directly with students.

The present study only measured maintenance effects over a three-week period for two of the participants, a two-week period for one participant, and one week for another. The reasonably short maintenance period prevented the primary investigator from drawing conclusions on the long-term effects of the VSM procedure. Future research should measure maintenance over a longer period of time.

Future research should focus on conducting more studies that are generalizable to under-represented populations, such as females and individuals from diverse backgrounds. The number of CLD students with ED is increasing; therefore, research outcomes should be generalizable across cultures, gender, and disabilities.

Significance of this Dissertation

Socio-cultural Influences on Behavior

A major contribution of this dissertation is that it is one of the first to attempt to demonstrate how secondary students from diverse backgrounds respond to an evidence-based intervention. While it is beyond the scope of this study to understand the underlying socio-cultural factors that may have influenced the participants' behaviors, it is important to consider in intervention research. Some behaviors exhibited by students are culturally appropriate, but teachers may interpret or misperceive these behaviors as not being congruent with school norms. According to Brislin (as cited in Ting-Toomey & Chung, 2005), a cultural clash refers to misunderstanding an encounter in which people are actually behaving in a "socially skilled manner" and with "good intentions" according to their culture. Cultural clashes occur when there is a lack of understanding; this lack of understanding may result in some students' behavior being inappropriately identified as disruptive. Ford and Kea (2009) contend that cultural clashes in the classroom settings are inevitable. For Example, Kate's teachers identified her laughing raucously out loud as being disruptive, but from Kate's perspective, her mother and grandmother laugh the same way at home. However, Kate's raucous laughter was inappropriate and disruptive to the classroom context, but at home with her family it is very appropriate. Some of these behaviors may have been inappropriate within the context of the classroom, but with respect to individual and cultural differences, they may have been appropriate to the individual student. Yasui and Dishion (2007) emphasize the centrality of culture in the ecology of culturally diverse youth. They contend that culture permeates every contextual

level of the ecology of these youth, from parental socialization practices to larger socio-cultural challenges. Different parenting styles, cultural values, familial expectation and societal influences across diverse cultures highlight the conceptualization of adaptive or functional behaviors associated with psychosocial competence in children (Yasui & Dishion, 2007). Therefore, when developing culturally-relevant research methodologies and interventions for diverse groups, researchers need to consider differing cultural styles.

Effective Intervention and Improved Learners' Outcomes

The VSM intervention not only helps increase appropriate behaviors and decrease inappropriate behaviors, but it also promotes achievement outcomes for these students. Overall, the four participants demonstrated some academic progress in their classes. For example, initially Kate had 13½ credits, which placed her in the 10th grade; by the end of the year she had a total of 17½, which placed her in the 11th grade. During the first semester prior to the study, her final grades in her food science tech and photojournalism class were 70 and an 80; but during and after the study her grades increased to a 75 and an 86 respectively. Prior to Leonard's participation in the study, his fourth sixth weeks grade was a 55 in his career prep class, but during the study his fifth six weeks (82) and his sixth six weeks (77) grades increased. His final average for the semester was a 70, and he completed 7 courses through credit recovery earning a total of 3.5 credits in less than eight weeks, and a credit by exam. He actually graduated early and completed the application and financial aid process for a junior college, which he plans to attend in the fall. Conversely, George failed IPC and Carol failed algebra; they had to attend summer

school to recover credits and did so with success. George has earned an adequate number of credits to be promoted to the 11th grade, but Carol lacks one credit for promotion to the 10th grade. George is supposed to be a senior next school year and Kate should have graduated this year. The academic performances of these students are consistent with the literature. Although they have demonstrated some academic progress, there is still room for improvement. Developing effective academic and behavioral interventions with these students in mind will hopefully enhance progress.

Concluding Comments

It is evident that the VSM intervention was effective in decreasing inappropriate social behaviors and increasing appropriate behaviors in all four participants and across each target behavior category. Moreover, the last panel of each figure demonstrates that treatment gains appear to have been maintained beyond intervention. This highlights the fact that VSM has been proven an effective intervention with individuals with varying degrees of challenges (e.g., autism, ED) in the educational setting (Buggey, 2005; Schwan & Holzworth, 2002). Researching effective interventions that pertain to individuals with ED, including CLD groups and that produce positive outcomes for children and youth with ED will provide the field and its stakeholders with appropriate treatments and strategies that will contribute to the lifelong success of this population. Empirical research designed to address the needs of students with ED is vital to the policymakers as they devise, approve, and enforce special education policies.

APPENDICES

APPENDIX A

I. Title

The Impact of Video Self-Modeling on Culturally and Linguistically Diverse Secondary Students with an Emotional Disturbance.

II. Investigators

Sonia D. Baker, Mark F. O'Reilly, and Audrey McCray-Sorrells (faculty sponsors)

III. Hypothesis, Research Questions, or Goals of the Project

The goal of this project is to increase the frequency of appropriate social interactions using video self-modeling prior to situations in which such behaviors are used. Our hypothesis is that students who are provided training using video self-modeling will be able to perform the skills in classroom situations and during interactions with peers or adults outside of the classroom environment.

IV. Background and Significance

The number of students identified as having ED is increasing (Sawka, McCurdy, & Manella, 2002). In fact, the number of students between the ages of 3 and 21 served in federally-supported programs in the emotional disturbance category from 1976 to 2004 nearly doubled, from 283,000 to 489,000 (National Center for Education Statistics [NCES], 2007. These students often engage in behavior that is disruptive in the classroom, impedes educational progress, and inhibits their ability to develop and maintain positive peer relationships (Cook et al., 2008). Additionally, there is an overrepresentation of culturally and linguistically diverse (CLD) students in the area of ED and in the juvenile justice system (Cartledge, Kea, & Simmons-Reed, 2002). Moreover, overrepresentation in this category of disability is a concern in the state of Texas with Native Americans and Caucasian students, but specifically with African American youth (Texas Education Agency [TEA], 2005). According to data retrieved from the TEA (2008), the academic excellence indicator system 2007-08 profile reports that African Americans represent 14.3% of the total student population. However, the percentage of African American students aged 6 through 21 with ED served under the Individual with Disability Education Act (IDEA) in the state of Texas is 22.46% (U.S. Department of Education, 2007).

The ED population tends to be underserved (Smith, Polloway, Patton, & Dowdy, 2004) and is less likely to receive academic support and behavioral

interventions they need to succeed (Wagner et al., 2006). Also, academic and behavioral supports are less common at the secondary level than at the elementary school level and teachers are likely to feel unqualified to work with students with ED (2006). Although video modeling has been an empirically-validated intervention in teaching a variety of skills to other challenging populations (e.g., autism) (Delano, 2007), the review of research revealed that we currently have inadequate knowledge about the effectiveness of video modeling with CLD students. This may be due in part to the lack of data on these students, particularly the critical aspect of participant identification. The proposed study seeks to address this research gap by examining the effectiveness of video modeling with secondary CLD students with ED.

V. Research Method, Design, and Proposed Statistical Analysis

Participants in the study will learn appropriate social interactions through training with an adult and taking part in situations in which the new behaviors will be used. Positive consequences such as praise will be used during skills training. Training will take place at the participant's school during regular school hours.

Appropriate social interactions will be identified on an individual basis, depending on the deficits exhibited by the participant and behavioral goals associated with his or her Individualized Education Plan (IEP). Interviews with teachers and students are one way of identifying situations in which help is needed. Video self-modeling will be the intervention used since it is non-punitive and non-intrusive.

A single subject research design will be used to analyze data. Specifically, a multiple baseline design will be used to examine the efficacy of the intervention. The intervention will be introduced in a staggered fashion to (a) teach a participant multiple behaviors or (b) teach a participant a single behavior in multiple environments. This design is ideal because the intervention will focus on multiple target behaviors or settings per participant during treatment.

Baseline:

During baseline, data will be collected on participants' performance of target social skills in situations without intervention or feedback. For example, if the target behavior is sharing, data will be collected on how often the participant shares items with classmates without ever having used any social skills intervention.

Video Self-modeling:

The participants will receive training in a private room at their school. They will be taught by the primary investigator. For example, video self-modeling training will require the participant to be recorded demonstrating a positive example of the target behavior. Scripting will require that the participant examine a list of the steps of a skill and commit it to memory through repeated practice, prompting, and positive reinforcement. Participants may also engage in role plays of the target behaviors with the primary investigator or the teacher in order to have to practice the appropriate behaviors. The video self-modeling intervention will take place in a separate room from the classroom involving only the participant and the primary investigator.

The participants will return to their regular classroom setting or other social situation and will be measured on the occurrence of the behavior taught using video self-modeling. The recording/observation period will last 15 minutes and will be conducted immediately after each training session. During this observation/recording period, the student will participate in their regular activities and not interact with the researcher. During observations the primary investigator will observe the participant in the classroom by taking notes and not by video taping.

Generalization will be programmed into the intervention. The student will interact with many different people during the intervention as a result of having the opportunity to engage with any member of the classroom or social situation. This is in contrast to a one-to-one situation in which the student will interact with one person, thus decreasing the likelihood that the target behavior would be used with other people not involved with training. No video taping will take place during this phase of the study.

During the classroom observations for comparison purposes, a random peer who typifies average classroom participation, according to the teacher and primary investigator, will be selected and observed. The primary investigator will not be collecting any personal information, or videotaping. The primary investigator will be noting a random student's behavior in comparison to the participant. This individual will not receive an intervention nor be videotaped. Thus I am requesting a waiver for informed consent.

Interobserver reliability data will be collected on 30% of the sessions by a trained observer. Data concerning treatment fidelity will also be collected during 30% of the sessions. Classroom teachers and parents will also be asked to complete surveys regarding the social acceptability of the intervention.

VI. Human Subjects Interactions

A. *Sources of Potential Participants*

We expect to recruit participants who have a diagnosis of an Emotional Disturbance. We will recruit students from school districts in the area. Approximately 4 to 6 participants will be included in the study. Students will be chosen for this study if they demonstrate the need to learn appropriate social interaction skills or if their IEP includes social-behavioral goals. We anticipate participation in this study to begin in September 2009 and continue through May 2010.

B. *Procedures for Recruitment*

The special education director of the school district will be contacted by the principal investigator and provided a copy of the research proposal, a copy of the parent consent and the child assent forms. Then, the Licensed Specialist in School Psychology of each of the school districts or schools will be asked to identify students who have been diagnosed with an Emotional Disturbance. Once these students are identified, the student's principal and teacher will be asked to participate in this study. If the principal and teacher agree, consent forms will be hand-delivered to the parents by the primary investigator to obtain parent permission for their child to participate in this study. This will allow the primary investigator to explain the purpose of the study and answer any questions the parents may have. Once permission has been obtained by the principal and teacher, parents will sign a consent form.

C. *Procedure for Obtaining Informed Consent*

Due to the age range of the students, 13 to 17 years, informed consent will be obtained by the primary investigator providing the parents with a consent form (see attached). Consent forms will be provided in student's native language. Also, minors will sign an assent form.

D. *Research Protocol*

Students will work with experimenter approximately 30 minutes per day, 3-4 times per week in a separate classroom on the student's home campus. Data will be collected in the students' mainstreamed (regular education) classroom and will be collected in three ways. For simple

one-step behaviors, data on how frequently a behavior occurs within a given time frame (e.g., 15 minutes) will be collected. Data for simple behaviors may also be collected in a partial interval format, in which a behavior is recorded as it occurs within a short interval of time, such as 10 seconds. For longer, more complex behaviors, data will be collected on the number of steps correctly performed of a social skill, based on a task analysis which will break down the skill into concrete, observable steps. No videotaping will take place in the classroom setting. Videotaping will take place in a separate room from the classroom involving only the participant and the primary investigator.

E. Privacy and Confidentiality of Participants

Privacy of the participants will be protected by conducting training sessions in a room separate from their classroom; this room will be located on the students' home campus. Confidentiality will be ensured in that no information will be shared with other parties except in instances of reports of abuse, which must be disclosed as required by law. The participants can stop participating in the study at any time.

F. Confidentiality of Research Data

Written data will be kept in a locked file cabinet in a locked room. Participants will only be identified by code and no personal information will be recorded. Electronic data will be kept on a password-protected computer. This study will include video recordings, so the following holds true: (a) that the sessions will be videotaped; (b) that the videotapes will be coded so that no personally identifying information is visible on them; (c) that they will be kept in a secure place (e.g., a locked file cabinet in the investigator's office); (d) that they will be heard or viewed only for research purposes by the investigator and his or her associates; and (e) that they will be retained for possible future analysis.

G. Resources

Research assistants will be graduate students from the University of Texas Special Education Department. Research will be conducted at the participants' schools,

which will have their own emergency facilities and services.

VII. Potential Risks

The risk involved with this study is minimal, as the video self-modeling intervention being investigated is a regularly utilized teaching protocol for students with challenging behaviors. In cases of abuse either witnessed by the researchers or described to them by the participants, the researchers are required by law to break confidentiality and report all such incidents to CPS.

VIII. Potential Benefits

Potential benefits of this study include improved social interaction with teachers and peers, as well as improved functioning in the school and other social environments. Positive gains such as making friends, higher frequency of classroom participation, and improved confidence are all associated with social skills training. Another potential benefit may be a decrease in undesirable behaviors in situations in which new skills are used and increase self-efficacy.

IX. Sites or Agencies Involved in the Research Project:

The name of institution has been deleted due to confidentiality purposes.

X. Review by Another IRB

N/A

APPENDIX B

IRB# 2009-07-0032

Informed Consent to Participate in Research
The University of Texas at Austin

You are being asked to allow your child to participate in a research study. This form provides you with information about the study. The person in charge of this research will also describe this study to you and answer all of your questions. Please read the information below and ask any questions you might have before deciding whether or not to take part. Your participation is entirely voluntary. You can refuse to participate without penalty or loss of benefits to which you are otherwise entitled. You can stop your participation at any time and your refusal will not impact current future relationships with UT Austin or participating sites. To do so simply tell the researcher you wish to stop participation. The researcher will provide you with a copy of this consent for your records.

Title of Research Study:
The Impact of Video Self-Modeling on Culturally and Linguistically Diverse Secondary Students with an Emotional Disturbance.

Principal Investigator(s) (include faculty sponsor), UT affiliation, and Telephone Number(s):
Sonia Denise Baker (McCullough), Ph. D. Student
Department of Special Education
(512)923-4089

Mark F. O'Reilly, Ph.D., Associate Professor (Faculty Sponsor)
Department of Special Education
(512)471-7140

Audrey M. Sorrells, Ph. D., Associate Professor (Faculty Co-Sponsor)
Department of Special Education, College of Education
(512)471-4161

Funding source:
Not applicable

What is the purpose of this study?
The purpose of this project is to increase the frequency of appropriate social interactions using video self-modeling prior to situations in which such behaviors are used. The number of subjects to be included in the study is approximately 4 to 6.

What will be done if you take part in this research study?

If you allow your child to participate, your child will learn new social skills by receiving instruction and practicing such skills with adults. The intervention will take place at your child's school during regular school hours.

During training sessions, your child will receive instruction from an adult. Instruction may be in the form of learning scripts and role-play. Your child will be videotaped demonstrating a positive example of a target skill. Then he or she will watch the videotape of him/herself demonstrating the appropriate target skill for approximately 5 minutes. The students will be instructed to watch the entire videotape, and if he/she does not attend to the videotape, they will be reminded to do so. The primary investigator will limit what is said before, during, and after showing the video. The participant will be positively reinforced (e.g., verbal praise) by the primary investigator for attending to the videotape. For example, the primary investigator will say, "good job" to the participant at the end of viewing the tape.

Your child will then return to his/her regular classroom or other social situation and will be measured on the occurrence of the behavior he/she learned from viewing the videotape. In this situation, feedback will not be provided to your child.

Training session will last approximately 5 minutes. We plan to teach your child up to three new social behaviors. Overall participation in this study should last approximately twelve weeks.

The Project Duration is:
The possible duration of this project is twelve weeks.

What are the possible discomforts and risks?
The risk involved with this study is minimal, as the video self-modeling intervention being investigated is a regularly utilized teaching protocol for students with challenging behaviors. In cases of abuse either witnessed by the researchers or described to them by the participants, the researchers are required by law to break confidentiality and report all such incidents to Child Protective Services (CPS). If you wish to discuss the information above or any other risks you may experience, you may ask questions now or call the principal investigator listed on the front page of this form.

What are the possible benefits to you or to others?
Potential benefits of this study include improved social interaction with teachers and peers, as well as improved functioning in the school and other social environments. Positive gains such as making friends, higher frequency of classroom participation, and improved confidence and increased self-efficacy are all associated with video self-

modeling. Another potential benefit may be a decrease in undesirable behaviors in situations in which new skills are used.

If you choose to take part in this study, will it cost you anything?
There will be no costs associated with this study.

Will you receive compensation for your participation in this study?
No compensation will be provided for participating in this study.

What if you are injured because of the study?
While we do not expect your child to be injured in anyway during this study, if an injury does occur, the school policy for handling injuries will be followed. Additionally, you will be informed immediately.

If you do not want to take part in this study, what other options are available to you?
Your participation in this study is entirely voluntary. You are free to refuse to be in the study, and your refusal will not influence current or future relationships with The University of Texas at Austin, or school district in which the study takes place or any other organization.

How can you withdraw from this research study and who should you call if you have questions?

If you wish to stop your participation in this research study for any reason, you should contact the principal investigator: **Sonia Baker** at **(512) 923-4089**. You should also call Sonia Baker for any questions, concerns, or complaints about the research. You are free to withdraw your consent and stop participation in this research study at any time without penalty or loss of benefits for which you may be entitled. Throughout the study, the researchers will notify you of new information that may become available and that might affect your decision to remain in the study.

In addition, if you have questions about your rights as a research participant, or if you have complaints, concerns, or questions about the research, please contact Jody Jensen, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects at (512) 232-2685 or the Office of Research Support at (512) 471-8871.

You may keep the copy of this consent form.

How will your privacy and the confidentiality of your research records be protected?

Privacy of the participants will be protected by conducting training sessions in a room separate from their classroom; this room will be located on the students' home campus.

Confidentiality will be ensured in that no information will be shared with other parties except in instances of reports of abuse, which must be disclosed as required by law.

Written data will be kept in a locked file cabinet in a locked room. Participants will only be identified by code and no personal information will be recorded. Electronic data will be kept on a password-protected computer.

If in the unlikely event it becomes necessary for the Institutional Review Board to review your research records, then The University of Texas at Austin will protect the confidentiality of those records to the extent permitted by law. Your research records will not be released without your consent unless required by law or a court order. The data resulting from your participation may be made available to other researchers in the future for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate you with it, or with your participation in any study.

This study will include video recordings, so the following holds true: (a) that the sessions will be videotaped; (b) that the videotapes will be coded so that no personally identifying information is visible on them; (c) that they will be kept in a secure place (e.g., a locked file cabinet in the investigator's office); (d) that they will be heard or viewed only for research purposes by the investigator and his or her associates; and (e) that they will be retained for possible future analysis.

If the results of this research are published or presented at scientific meetings, your identity will not be disclosed.

Will the researchers benefit from your participation in this study*?*

Yes, this study will help the principal investigator to refine research questions, topics, and methodologies for use in research manuscripts, as well as meet the requirements for completing the dissertation process.

Signatures:

As a representative of this study, I have explained the purpose, the procedures, the benefits, and the risks that are involved in this research study:

Signature and printed name of person obtaining consent **Date**

You are making a decision about allowing your (son/daughter/child/infant/adolescent youth) to participate in this study. Your signature below indicates that you have read the information provided above and have decided to allow him or her to participate in the study. If you later decide that you wish to withdraw your permission for your

(son/daughter/child/infant/adolescent youth) to participate in the study, simply tell me. You may discontinue his or her participation at any time.

We may wish to present some of the audio / video tapes from this study at scientific conventions or as demonstrations in classrooms. Please sign below if you are willing to allow us to do so with your recorded data.

Signature of Parent(s) or Legal Guardian **Date**

Signature of Principal Investigator **Date**

Consent for Educational use of Videotapes:

We may wish to present some of the audio / video tapes from this study at scientific conventions or as demonstrations in classrooms. Please sign below if you are willing to allow us to do so with your recorded data.

_____ _____

Signature of Parents(s) or Legal Guardian Date

Assent form for youth between 13 and 17 years of age:

I have read the description of the study titled the impact of video self-modeling on culturally and linguistically diverse secondary students with an emotional disturbance that is printed above, and I understand what the procedures are and what will happen to me in the study. I have received permission from my parent(s) to participate in the study, and I agree to participate in it. I know that I can quit the study at any time.

Printed Name of (son/daughter/child/infant/adolescent youth) **Date**

_____ _____

Signature of Child Date

_____ _____

Signature of Parents(s) or Legal Guardian Date

APPENDIX C

IRB# 2009-07-0032

Consentimiento Instruido para Participar en una Investigación

La Universidad de Tejas en Austin

Usted está siendo pedido a dar su consentimiento a permitir a su niño participar en un estudio investigativo. Esta forma le provee a usted con información acerca de este estudio. La persona cargada de esta investigación también le describirá a usted este estudio y contestará todas sus preguntas. Por favor lee la información debajo y haga cualquier pregunta usted pueda tener antes de decidir si usted va a tomar parte de este estudio o no. Su participación es completamente voluntaria. Usted puede rehusar a participar sin sanción o pérdida de beneficios a los cuales usted de otra manera está calificado. Usted puede terminar su participación en cualquier tiempo y su negación no repercutirá las relaciones actuales o futuras con UT de Austin o de los sitios participantes. Al hacerlo simplemente diga a su investigadora que desea parar su participación. La investigadora le proveerá a usted con una copia de su consentimiento para sus archivos.

Título del Estudio Investigativo:

El impacto de vídeo que automodela en estudiantes secundarios culturalmente y lingüísticamente diversos con una perturbación emocional

Los Investigadores Principales (incluyendo patrocinador facultativo), afiliación UT, y Número(s) de Teléfono:

Sonia Denise Baker (McCullough), Estudiante Ph. D.

Departamento de Educación Especial

(512)923-4089

Mark F. O'Reilly, Ph.D., Profesor Asociado (Patrocinador Facultativo)

Departamento de Educación Especial

(512)471-7140

Audrey M. Sorrells, Ph. D., Profesora Asociada (Co-Patrocinadora Facultativa)

Departamento de Educación Especial

(512)471-4161

Fuente de fondos:

No aplicable

¿Cuál es el propósito de este estudio?

El propósito de este estudio es incrementar la frecuencia de interacciones sociales apropiadas usando el video de modelo de si mismo antes de situaciones en cuales tales conductas son usadas. El número de sujetos que van a ser incluidos en el estudio es aproximadamente 4 hasta 6.

¿Qué se hará si usted toma parte en este estudio de investigación?

Si usted permite que su niño participe, su niño aprenderá nuevas habilidades sociales por recibir instrucciones y practicando tales habilidades con adultos. La intervención tendrá lugar en la escuela de su niño durante las horas regulares escolares.

Durante las sesiones de entrenamiento, su niño recibirá instrucción de un adulto. Instrucción puede ser en la forma de escrituras de enseñanza y juego de roles. Su niño será grabado por video demostrando un ejemplo positivo de una habilidad enfocada. Entonces él o ella mirarán la grabación del video de él mismo o de ella misma demostrando la habilidad enfocada por aproximadamente 5 minutos. Los estudiantes serán instruidos a mirar la grabación entera de video, y si él/ella no ponen atención a la cinta de video se les recordará hacerlo. La investigadora principal limitará que se les dirá antes, durante, y después de presentar el video. El participante será positivamente reforzado (p.e., elogio verbal) por la investigadora principal por poner atención a la cinta de video. Por ejemplo, la investigadora principal le dirá, “buen trabajo” al participante al final de ver la cinta.

Su niño luego regresará al salón de clase regular de él/ella u otra situación social y será calificado sobre el acontecimiento de la conducta aprendida de él/ella por ver la cinta de video. En esta situación le retroalimentación no será proveída a su niño.

La sesión de entrenamiento durará aproximadamente 5 minutos. Planeamos enseñar a su niño hasta tres nuevos comportamientos sociales. Sobre todo, la participación en este estudio deberá durar aproximadamente 12 semanas.

La Duración del Proyecto es:

La duración posible de este proyecto es 12 semanas.

¿Cuáles son las posibles incomodidades y riesgos?

El riesgo involucrado con este estudio es mínimo, así que la intervención del video del modelo de si mismo siendo investigado es un protocolo de enseñanza que es regularmente utilizado para estudiantes con comportamientos desafiantes. En casos de abuso ya sean atestiguados por los investigadores o descritos a ellos por los participantes, los investigadores están requeridos por ley quebrar confidencialidad y reportar todos tales incidentes al "Child Protective Services" (CPS). Si usted desea discutir la información arriba o cualquier otro riesgo que usted experimente, usted puede hacer preguntas ahora o llamar a la investigadora principal listada en la página en frente de esta forma.

¿Cuáles son los posibles beneficios para usted u otros?

Beneficios potenciales de este estudio incluye mejoramiento de interacción social con maestros y gente entorno, así como funcionamiento mejorado en la escuela y otros ambientes sociales. Mejoramientos positivos tales como haciendo amigos, alta frecuencia de participación en el salón de clase, y mejorando su confianza e incrementar su eficacia propia están todos asociados con el video del modelo de si mismo. Otro beneficio potencial puede ser una disminución de una conducta no deseable en situaciones en la cual nuevas habilidades están usadas.

¿Si usted elige tomar parte en este estudio, nada le costará?

No habrá ni un costo asociado con este estudio.

¿Recibirá compensación por su participación en este estudio?

Ni una compensación será proveída por participar en este estudio.

¿Qué si usted está herido por razón de este estudio?

Mientras nosotros no esperamos que su niño esté dañado en ninguna manera durante este estudio, si es que una herida ocurra, se seguirá la póliza de la escuela para manejar heridas. Adicionalmente, usted inmediatamente será informado.

¿Si usted no quiere tomar parte en este estudio, que otras opciones están disponibles para usted?

Su participación en este estudio es enteramente voluntaria. Usted es libre de rehusar estar en el estudio, y su negación no influirá en sus relaciones actuales o futuras con la Universidad de Tejas en Austin o cualquier otra organización.

¿Como puede retirarse de este estudio investigativo y a quién deberá de llamar si usted tiene preguntas?

Si usted desea terminar su participación en este estudio investigativo por cualquier razón, deberá contactar a la investigadora principal: **Sonia Baker** al **(512) 923-4089**. Usted deberá también llamar a Sonia Baker para cualquier pregunta, preocupaciones, o quejas acerca de la investigación. Usted es libre de quitar su consentimiento y parar su participación en este estudio investigativo en cualquier tiempo sin sanción o pérdida de beneficios por los cuales usted de otra manera está calificado. A lo largo del estudio, los investigadores le notificarán a usted de nueva información que posiblemente puede llegar a ser disponible y que puede afectar su decisión de mantenerse en el estudio.

Además, si usted tiene preguntas acerca de sus derechos como un participante de investigación, o si usted tiene quejas, preocupaciones, o preguntas acerca de la investigación, por favor póngase en contacto con Jody Jensen, Ph.D., Chair, La Universidad de Tejas en "Austin Institutional Review Board for the Protection of Human Subjects" al (512) 232-2685 o en la "Office of Research Support" al (512) 471-8871.

Usted puede mantener una copia de esta forma de consentimiento.

¿Cómo se puede proteger la privacidad y confidencialidad de sus archivos investigativos?

La privacidad de los participantes será protegida por conducir sesiones de entrenamiento en un cuarto separado de sus salones de clase; este cuarto será ubicado en el campo hogar de los estudiantes. Confidencialidad será asegurada en que no será compartida la información con otros partidos excepto en casos de reportes de abuso, los cuales serán revelados sean requeridos por la ley.

Datos escritos estarán guardados en un archivero cerrado con llave adentro de un cuarto cerrado con llave. Participantes serán identificados por código y ni una información personal será grabada. Datos electrónicos se guardarán en una computadora con una contraseña protegida.

Si en un evento improbable llega a ser necesario para el "Institutional Review Board" repasar sus archivos de investigación, entonces la Universidad de Austin protegerá la confidencialidad de estos archivos a lo máximo permitido por ley. Sus archivos investigativos no serán liberados sin su consentimiento al menos que sean requisitos por ley o una orden de corte. Los datos resultantes de su participación pueden ser hecho disponible a otros investigadores en el futuro para propósitos de investigación no detallados dentro de esta forma de consentimiento. En estos casos, los datos no contendrán ninguna información que podría asociarle a usted con él, o con su participación en cualquier estudio.

Este estudio incluirá grabaciones de video, así que lo siguiente es hecho verdad: (a) que las sesiones serán grabadas por cinta de video; (b) que las cintas de video serán codificadas así que va a ser invisible cualquier información que se puede ser identificada

personalmente; (c) que ellos estarán guardados en un lugar seguro (p.e., un archivero cerrado con llave en la oficina del investigador; (d) que ellos serán oídos o vistos solo por propósitos de investigación por el investigador y su socio o socia; (e) que ellos serán mantenidos por posibles análisis futuros.

Si los resultados de esta investigación son publicados o presentados en las juntas científicas, su identidad no será revelada.

¿Puede ser que los investigadores se beneficien por su participación en este estudio?

Sí, este estudio ayudará a la investigadora principal a perfeccionar preguntas investigativas, asuntos, y metodologías para uso de manuscritos investigativos, así como satisfacer los requisitos por cumplir el proceso de disertación.

Firmas:

Como una representante de este estudio, he explicado el propósito, los procedimientos, los beneficios, y los riesgos que están involucrados en este estudio investigativo:

_____

Firma y nombre impreso de la persona obteniendo consentimiento Fecha

Usted está tomando una decisión acerca de dejar a su (hijo/hija/niño/infante/joven adolescente) participar en este estudio. Su firma abajo indica que usted ha leído la información proveída arriba y que usted ha decidido a dejar a él o a ella participar en el estudio. Si después usted decide que desea quitar su permiso para su (hijo/hija/niño/infante/joven adolescente) participar en el estudio, simplemente dígame. Usted puede discontinuar la participación de él o de ella a cualquier momento.

Es posible que nosotros vamos a desear presentar alguna parte de las cintas de audio / video de este estudio durante asambleas científicas o como demostraciones en los salones de clase. Por favor firma abajo si usted está dispuesto a dejarnos hacerlo con sus datos grabados.

_____

Firma de los padres o del padre o de la madre o Tutor(ora) Legal Fecha

_____

Firma de la Investigadora Principal **Fecha**

Consentimiento para el uso Educacional de Cintas de Video:

Es posible que nosotros vamos a desear presentar alguna parte de las cintas de audio / video de este estudio durante asambleas científicas o como demostraciones en los salones de clase. Por favor firma abajo si usted está dispuesto a dejarnos hacerlo con sus datos grabados.

_____ _____

Firma de los padres o del padre o de la madre o Tutor(ora) Legal Fecha

Forma de Asentimiento para los jóvenes entre las edades de 13 y 17 años:

Yo he leído la descripción del estudio titulado El impacto de vídeo que automodela en estudiantes secundarios culturalmente y lingüísticamente diversos con una perturbación emocional, y entiendo cuales son los procedimientos y que pasará conmigo en el estudio. Yo he recibido permiso de parte de mis padres o de mi padre o de mi madre o de mi tutor (ora) legal para participar en el estudio, y estoy de acuerdo participar en él. Yo sé que puedo retirarme del estudio a cualquier momento.

Nombre Impreso del/de la (hijo/hija/niño/infante/joven adolescente) Fecha

_____ _____

Firma del Niño Fecha

_____ _____

Firma de los padres o del padre o de la madre o Tutor(ora) Legal Fecha

APPENDIX D

The 5 + 5 Behavior List

Student's name: _____

Person completing this list: _____

Relationship to child: _____

Directions: Begin by listing in the left-hand column 5 desirable behaviors your child (or student) does regularly now; things that you want him or her to continue doing. Next, list in the right-hand column 5 behaviors you would like to see your child do more often (things that your child does sometimes but should do with more regularity) and/or undesirable behaviors that your want him or her to do less often (or not at all). You may list more than 5 behaviors in either column, but try to identify at least 5 in each.

5 good things _____ does now.	**5 things I'd like to see _____learn to do more (or less) often.**
1.	**1.**
2.	**2.**
3.	**3.**
4.	**4.**
5.	**5.**

Reproduced from Cooper, Heron, and Heward (2007).

APPENDIX E

Frequency Data Sheet

Participant: _____ Date: _____

Target behavior: _____ Activity observed:_____

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:00 – 8:30					
8:30 – 9:00					
9:00 –9:30					
9:30 – 10:00					
10:00 – 10:30					
10:30 –11:00					
11:00 – 11:30					
11:30 – 12:00					
12:00 –12:30					
12:30 – 1:00					
1:00 – 1:30					
1:30 – 2:00					
2:00 – 2:30					
2:30 – 3:00					
3:00 – 3:30					
3:30 – 4:00					
Total Incidents					
Total Time Minutes/hour/day Time interval (circle one)					
Rate Per Minute/hour/day Time interval (circle one)					

APPENDIX F

Social Validity Inventory for Student

Purpose: To determine participant's feelings about his/her participation in the self-modeling intervention.

1= strongly disliked, 2 = disliked, 3 = neutral, 4 = liked, 5 = strongly liked

1. How much did you like the classroom observations? 1 2 3 4 5

2. How much did you like the videotaping procedure? 1 2 3 4 5

3. How much did you like viewing yourself on videotape? 1 2 3 4 5

4. Was the video self-modeling intervention effective in changing your behavior?
   1 2 3 4 5

APPENDIX G

Social Validity Index for Teacher

Teacher: _____

1. How acceptable did you find the Video Self-Modeling (a student is videotaped performing desired behavior) intervention to be for the student's problem behavior?

2. What noticeable changes in the student's behavior were evident because of the intervention?

3. How willing would you be to carry out this intervention yourself?

4. Do you think this intervention will help you in the future?

5. Do you think this would be an affordable intervention?

APPENDIX H

Date: _____

Dear Educator:

I am writing to invite you to participate in a doctoral dissertation study at the University of Texas at Austin. The title of the study is The Effectiveness of Video Self-Modeling in Teaching Appropriate Social Skills to Secondary Female Students with an Emotional Disturbance.

As you may know, individuals with an emotional disturbance typically exhibit inappropriate social skills and are unable to establish positive relationships with peers and adults. The purpose of this study is to determine if video self-modeling is effective in improving socially inappropriate behaviors with these individuals. The outcome of this study will help develop effective interventions for individuals with emotional disorders in the future. This is an anonymous volunteer-based study. Therefore, this information will not be shared or discussed with anyone but the principal, the parents of the participants, and the specific educators of the participants. All information will be kept confidential and in a locked cabinet. Therefore, no can identify who you are and you can withdraw from this study anytime you want.

Here is how to participate in this study:

1. Fill out the behavior form, which requires you to list behaviors of the specific student that you desire to improve.
2. Allow opportunities for the principle investigator to conduct observations in your classroom of the specific participant.
3. Work collaboratively with the principle investigator in arranging opportunities for the specific participant to demonstrate the improved behavior in your class, so that they can be observed for improvement.

If you have any questions regarding this study please contact Sonia Baker at (512) 923-4089 or Jody Jensen, Ph. D, the institutional review board chair at (512) 232-2685.

Thank you for your time and participation. Your participation will add body to knowledge of effective interventions for students with behavior disorders.

Sincerely,

Sonia Baker, M.A.,
Doctoral Candidate in the Department of Special Education
The University of Texas at Austin

APPENDIX I

Treatment Fidelity

Session: _____ **Rater Initials: _____** **Date: _____**

Procedural Steps	Yes	No	N/A
(1) The 3- to 5-minute video tape was viewed in its entirety.			
(2) The student watched his/her own videotape.			
(3) No conversation between the experimenter and the participant took place when the tape was being viewed.			
(4) The primary investigator provided no reinforcement in regards to the participant's behavior in the video during the viewing of the self-modeling video tape.			
(5) The days of viewing the intervention tapes were spaced at least one day apart.			

APPENDIX J

Date: _____

To meet compliance with the educational mandate for human participants' protections, I have successfully completed the required human participant training located at http://www.utexs.edu/research/rsc/humansubjects/training/index.html through the University of Texas Office of Research Support.

_____
Trainee

_____
Primary Investigator

GLOSSARY

Culture is defined as the beliefs, attitudes, values, habits, customs, and traditions shared by a group of people (Ford & Kea, 2009).

Culturally and Linguistically Diverse students refer to students from a variety of cultural, racial and ethnic backgrounds for whom English is not the first language.

Culturally responsive is defined as responding proactively and empathetically to appeals, efforts, and influences (Ford & Kea, 2009).

Emotional Disturbance (ED) as defined by IDEA is as follows:

The term means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance: (a) an inability to learn that cannot be explained by intellectual, sensory, or health factors; (b) and inability to build or maintain satisfactory interpersonal relationships with peers and teachers; (c) inappropriate types of behavior or feelings under normal circumstances; (d) a general pervasive mood of unhappiness or depression; (e) a tendency to develop physical symptoms or fears associated with personal or school problems. The term includes schizophrenia. The term does not apply to children who are socially maladjusted, unless it is determined that they have an emotional disturbance.

Inclusion refers to the physical, social, and academic placement of a student with disabilities into the general education classroom.

Individualized Education Program (IEP) is a written statement for each child with a disability that is developed, reviewed, and revised in accordance with Section 1414(d) of IDEA of 2004.

Secondary School is a nonprofit institutional day or residential school, including a public secondary charter school, that provides secondary education, as determined under State law, except that is does not include any education beyond grade 12.

Video Modeling is defined as a procedure in which an individual is shown a videotape of a model performing a target behavior correctly.

Video Self-Modeling is defined as having an individual watch a video of himself or herself engage in the behavior targeted for improvement.

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* = Denotes studies analyzed in the literature review

VITA

Sonia Denise Baker was born in San Antonio, TX. She is the daughter of Robert Lee Williams and Joyce Marie Mitchell. After graduating from William B. Travis High School in 1985, she attended Austin Community College where she earned an Associates of Arts. She attended the University of Texas at Austin earning a Bachelor of Science in Communication Sciences and Disorders in 1997 and a Master of Arts in Counseling and Psychology in 2004 from the University of Mary Hardin-Baylor. She entered the doctoral program in special education in 2005 and was the recipient of the Alexander Caswell Ellis Fellowship in Education in 2005-06. She has co-authored several book-chapters and peer-reviewed articles in the field of emotional and behavioral disorders, cultural diversity, and autism spectrum disorders.

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This dissertation was typed by the author